

Government of the Republic of Malawi



Roads Authority

Procurement of Works

For the

Upgrading of Chitipa – Ilomba (T301/D002) Road in Chitipa District

Volume 1 - Main Bidding Document

Procurement Reference Number	RA/DEV/CP/2022-23/01-Lot 1
Procurement Method	National Competitive Bidding
Date of Issue of bidding Document	30th May, 2022

The Chief Executive Officer
The Roads Authority
Functional Building Private Bag B346
Lilongwe MALAWI

Schedule of Bid Documents

Upgrading of Chitipa – Ilomba (T301/D002) Road in Chitipa District

VOLUME 1 **Bidding Document**

VOLUME 2 **Drawings**

VOLUME 3 **General Conditions of Contract** **(FIDIC Conditions of Contract for Construction)** **2nd Edition 2017**

VOLUME 4 **SATCC Standard Specifications** **For Road and Bridge Works** **(Reprinted July 2001)**

Volumes 3 and 4 are not issued to bidders as it is assumed that Contractors are in possession of the General Conditions of Contract and Standard Specifications. Bidders are requested to make their own arrangements to obtain Volumes 3 and 4 from the respective publishers should they not already be in possession of copies

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Section I. Instructions to Bidders

A. General

1. Scope of Bid

- 1.1 The Procuring Entity indicated in the Bid Data Sheet (BDS), invites bids for the construction of Works, as described in Section 6, Work Requirements. The subject and procurement reference number are provided in the BDS.
- 1.2 The successful Bidder will be expected to complete the Works by the Intended Completion Date specified in the PCC.
- 1.3 Throughout this bidding document:

the term **“in writing”** means communicated in written form (e.g. by mail, e-mail, fax, including, if **specified in the BDS**, distributed or received through electronic-procurement system used by the Employer) with proof of receipt;

if the context so requires, “singular” means “plural” and vice versa;

“Day” means calendar day, unless otherwise specified as a **“Business Day.”** A Business Day is any day that is a working day of the Borrower. It excludes the Borrower’s official public holidays;

“ES” means environmental and social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH));

“Sexual Exploitation and Abuse” “(SEA)” means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;

“Sexual Harassment” “(SH)” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor’s Personnel with other Contractor’s or Employer’s Personnel;

“Contractor’s Personnel” is as defined in Sub-Clause 1.1.17 of the General Conditions; and

“Employer’s Personnel” is as defined in Sub-Clause 1.1.33 of the General Conditions.

A non-exhaustive list of (i) behaviors which constitute SEA and (ii) behaviors which constitute SH is attached to the Code of Conduct form in Section IV

2. Source of Funds

- 2.1 The Procuring Entity indicated in the PCC has an approved budget from public funds towards the cost of the procurement described in Section 6, Schedule of Requirements and intends to use these funds to cover eligible payments under the Contract. Payments will be made directly by the Procuring Entity and will be subject in all respects to the terms and conditions of the resulting Contract placed by the Procuring Entity.

Part I: Section 1-Instructions to bidders

3. Eligible Bidders

- 3.1 A bidder shall:
 - (a) have the legal capacity to enter into a contract;
 - (b) not be insolvent, in receivership, bankrupt or being wound up, not have had their business activities suspended and not be the subject of legal proceedings for any of the foregoing; and
 - (c) have fulfilled their obligations to pay taxes according to the tax laws of their country of registration.
- 3.2 In order to demonstrate compliance with the criteria in ITB Sub-Clause 3.1, a Bidder shall submit with its Bid either:
 - (a) its certificate of Contractor Registration from the National Construction Industry Council demonstrating its registered supplier status; or
 - (b) appropriate documentary evidence demonstrating its compliance.
- 3.3 Bidding is open to all bidders from eligible countries as defined in Section 5, Eligible Countries. All materials, equipment and services to be used in the performance of the Contract shall have their origin in an eligible country, as defined in Section 5, Eligible Countries.
- 3.4 A bidder shall be required to obtain a certificate of registration from the National Construction Industry Council demonstrating registered supplier status, as a condition of contract award.
- 3.5 All bidders shall provide in Section 4, Bidding Forms, a statement that the Bidder (including all members of a joint venture and subcontractors) is not associated, nor has been associated in the past, directly or indirectly, with the consultant or any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Procuring Entity to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to bid.
- 3.6 Government-owned enterprises in the Republic of Malawi may only participate if they are legally and financially autonomous, operate under commercial law, and are not a dependent agency to the Procuring Entity.
- 3.7 A Bidder that has been debarred from participating in public procurement in accordance with ITB Sub-Clause 36.1(c), at the date of the deadline for bid submission or thereafter, shall be disqualified.

4. Qualification of the Bidder

- 4.1 All bidders shall provide in the Qualification Information Form in Section 4, Bidding Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 4.2 In the event that pre-qualification of potential bidders has been undertaken, only bids from pre-qualified bidders will be considered for award of Contract. These qualified bidders should submit with their bids any information updating their original pre-qualification applications or, alternatively, confirm in their bids that the originally submitted pre-qualification information remains essentially correct as of the date of bid submission. The update or confirmation should be provided in the Qualification Information Form in Section 4, Bidding Forms.
- 4.3 If the Procuring Entity has not undertaken pre-qualification of potential bidders, all bidders shall include the following information and documents with their bids, using the Qualification Information Form in Section 4, Bidding Forms, unless otherwise stated in Section 3, Evaluation and Qualification Criteria:
 - (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business or a copy of the Bidder's registration certificate where such documents have been provided to obtain registered supplier status; written power of attorney of the signatory of the Bid to commit the Bidder;
 - (b) total monetary value of construction work performed for each of the last five (5) years;
 - (c) experience in works of a similar nature and size for each of the last five (5) years, and details of work under way or contractually committed; and clients who may be contacted for further

Part I: Section 1-Instructions to bidders

- information on those contracts;
 - (d) major items of construction equipment proposed to carry out the Contract;
 - (e) qualifications and experience of key site management and technical personnel proposed for the Contract;
 - (f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five (5) years;
 - (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
 - (h) authority to seek references from the Bidder's bankers;
 - (i) information regarding any litigation, current or during the last five (5) years, in which the Bidder is involved, the parties concerned, and disputed amount; and
 - (j) proposals for subcontracting components of the Works amounting to more than ten (10) percent of the Contract Price.
- 4.4 Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated in Section 3, Evaluation and Qualification Criteria:
- (a) the Bid shall include all the information listed in Sub-Clause 4.3 above for each joint venture partner;
 - (b) the Bid shall be signed so as to be legally binding on all partners;
 - (c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - (d) one of the partners will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
 - (e) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.
- 4.5 To qualify for award of the Contract, bidders shall meet the minimum qualifying criteria specified in Section 3, Evaluation and Qualification Criteria.
- 4.6 Domestic Preference is not applicable in this bid.

5. One Bid per Bidder

- 5.1 Each Bidder shall submit only one Bid, either individually or as a partner in a joint venture. A Bidder who submits or participates in more than one Bid (other than as a subcontractor) will cause all the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

- 6.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Procuring Entity will in no case be responsible or liable for those costs.

7. Site Visit

- 7.1 The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.
- 7.2 Details of any Pre-Bid Meeting or Site Visit to be held by the Procuring Entity are given in the BDS.

B. Bidding Documents

8. Content of Bidding Documents

- 8.1 The set of bidding documents comprises the documents listed in the table below and any addenda issued in accordance with Clause 10:
- (a) **VOLUME 1 – MAIN BIDDING DOCUMENT** comprising:

Part I: Section 1-Instructions to bidders

PART 1 Bidding Procedures

- Section 1: Instructions to Bidders (ITB)
- Section 2: Bid Data Sheet (BDS)
- Section 3: Evaluation and Qualification Criteria
- Section 4: Bidding Forms including Bill of Quantities
- Section 5: Eligible Countries

PART 2 Schedule of Requirements

- Section 6(A): Scope of Works
- Section 6(B): Technical Specifications
- Section 6(C): Drawings
- Section 6(D): Supplementary Information

PART 3 Conditions of Contract and Contract Forms

- Section 7: General Conditions of Contract (GCC)
- Section 8: Particular Conditions of Contract (PCC)
- Section 9: Contract Forms

(b) **VOLUME 2 - DRAWINGS**

9. Clarification of Bidding Documents

- 9.1 A prospective Bidder requiring any clarification of the bidding documents may notify the Procuring Entity in writing at the Procuring Entity's address indicated in the BDS. The Procuring Entity will respond to any request for clarification received earlier than fourteen (14) days prior to the deadline for submission of bids. Copies of the Procuring Entity's response will be forwarded to all Bidders, including a description of the inquiry, but without identifying its source.

10. Amendment of Bidding Documents

- 10.1 Before the deadline for submission of bids, the Procuring Entity may modify the bidding documents by issuing addenda.
- 10.2 Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing to all purchasers of the bidding documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Procuring Entity.
- 10.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Procuring Entity shall extend, as necessary, the deadline for submission of bids, in accordance with Sub-Clause 20.2 below.

C. Preparation of Bids

11. Language of Bid

- 11.1 All documents relating to the Bid shall be in English. Any printed literature furnished by the Bidder may be written in another language, as long as such literature is accompanied by a translation of its pertinent passages in English; in which case, for purposes of interpretation of the Bid, the translation shall govern.

12. Documents Comprising the Bid

- 12.1 The Bid submitted by the Bidder shall comprise the following, in the format indicated in Section 4, Bidding Forms, where appropriate:
 - (a) Bid Submission Form;
 - (b) Bid Security;
 - (c) Priced Bill of Quantities or Activity Schedule;
 - (d) Qualification Information Form and Documents; and
 - (e) any other document or information required to be completed and submitted by bidders, as specified in the BDS.

13. Bid Prices

- 13.1 The Contract will be an Ad-measurement or Lump Sum Contract, as indicated in the BDS.
- 13.2 The Contract shall be for the whole Works, as described in ITB Sub-Clause 1.1, based on the:
 - (a) Priced Bill of Quantities submitted by the Bidder in the case of an Ad-measurement Contract; or
 - (b) Priced Activity Schedule submitted by the Bidder in the case of a Lump Sum Contract.
- 13.3 The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities (or in the case of a lump sum contract, for all items of the Works described in the drawings and specifications and listed in the Activity Schedule). Items for which no rate or price is entered by the Bidder will not be paid for by the Procuring Entity when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities or Activity Schedule.
- 13.4 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause shall be included in the rates, prices and total Bid price (or in the case of a lump sum contract, in the total bid price) submitted by the Bidder.
- 13.5 The rates and prices (or in the case of a lump sum contract, the lump sum price) quoted by the Bidder shall not be subject to adjustment during the performance of the Contract unless provided for in the BDS and PCC and the provisions of Clause 13.8 of the Conditions of Contract. The Bidder shall submit with the Bid all the information required under PCC Clause 13.8.

14. Currencies of Bid and Payment

- 14.1 The unit rates and prices (or in the case of a lump sum contract, the lump sum price) shall be quoted by the Bidder entirely in Malawi Kwacha.

15. Bid Validity

- 15.1 Bids shall remain valid for the period specified in the BDS.
- 15.2 In exceptional circumstances, the Procuring Entity may request that the bidders extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing. A Bidder may refuse the request without forfeiting the Bid Security. A Bidder agreeing to the request will not be required or permitted to otherwise modify the Bid, but will be required to extend the validity of Bid Security for the period of the extension, and in compliance with Clause 16 in all respects.

16. Bid Security

- 16.1 The Bidder shall furnish, as part of the Bid, a Bid Securing declaration form as specified in the BDS.
- 16.2 The Bid Security shall be in the form of a certified cheque or payable order, bank draft, letter of credit, or a bank guarantee from a financial institution operating in Malawi. The format of the Bid Security should be in accordance with the form of Bid Security included in Section 4, Bidding Forms or another form acceptable to the Procuring Entity. Bid Security shall be valid for twenty-eight (28) days beyond the validity of the Bid.
- 16.3 Any bid not accompanied by an acceptable Bid Security shall be rejected. The Bid Security of a joint venture must define as "bidder" all joint venture partners and list them in the following manner: a joint venture consisting of "_____", "_____", and "_____".
- 16.4 The Bid Security of unsuccessful bidders will be returned within one (1) week after concluding the contract and after a Performance Security has been furnished by the successful Bidder.
- 16.5 The Bid Security of the successful Bidder will be discharged when the Bidder has signed the contract and furnished the required Performance Security.
- 16.6 The Bid Security may be forfeited:
- (a) if the Bidder withdraws the Bid after Bid opening during the period of Bid validity;
 - (b) if the Bidder does not accept the correction of the Bid price, pursuant to Clause 27; or
 - (c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to:
 - (i) Sign the contract; or
 - (ii) Furnish the required Performance Security.

17. Alternative Proposals by Bidders

- 17.1 Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawings and specifications. Alternatives will not be considered unless specifically allowed in the BDS.

18. Format and Signing of Bid

- 18.1 The Bidder shall prepare one original of the documents comprising the Bid as described in Clause 12 of these Instructions to Bidders, bound with the volume containing the Bid Submission Form, and clearly marked "ORIGINAL." In addition, the Bidder shall submit copies of the Bid, in the number specified in the BDS, and clearly marked as "COPIES." In the event of discrepancy between them, the original shall prevail.

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- 18.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the Bidder, pursuant to Sub-Clauses 4.3(a) or 4.4(b), as the case may be. All pages of the Bid where entries or amendments have been made shall be initialled by the person or persons signing the Bid.
- 18.3 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Procuring Entity, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialled by the person or persons signing the Bid.
- 18.4 The Bidder shall furnish information as described in the Bid Submission Form on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

D. Submission of Bids

19. Sealing and Marking of Bids

- 19.1 The Bidder shall seal the original and all copies of the Bid in two inner envelopes and one outer envelope, duly marking the inner envelopes as "ORIGINAL" and "COPIES".
- 19.2 The inner and outer envelopes shall:
- (a) be addressed to the Procuring Entity at the address provided in the BDS;
 - (b) bear the name and procurement reference number of the Contract as defined in the BDS and SCC; and
 - (c) provide a warning not to open except in the presence of the Internal Procurement Committee and not to be opened before the specified time and date for Bid opening as defined in the BDS.
- 19.3 In addition to the identification required in Sub-Clause 19.2, the inner envelopes shall indicate the name and address of the Bidder to enable the Bid to be returned unopened in case it is declared late, pursuant to Clause 21.
- 19.4 If the outer envelope is not sealed and marked as above, the Procuring Entity will assume no responsibility for the misplacement or premature opening of the Bid.

20. Deadline for Submission of Bids

- 20.1 Bids shall be delivered to the Procuring Entity at the address specified in ITB Sub-Clause 19.2(a) above no later than the time and date specified in the BDS.
- 20.2 The Procuring Entity may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Procuring Entity and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

- 21.1 Any Bid received by the Procuring Entity after the deadline prescribed in Clause 20 will be returned unopened to the Bidder.

22. Withdrawal, Substitution and Modification of Bids

- 22.1 Bidders may withdraw, substitute or modify their bids by giving notice in writing before the deadline prescribed in Clause 20.
- 22.2 Each Bidder's withdrawal, substitution or modification notice shall be prepared, sealed, marked, and delivered in accordance with Clauses 18 and 19, with the outer and inner envelopes additionally marked "WITHDRAWAL", "SUBSTITUTION" or "MODIFICATION" as appropriate. The corresponding substitution or modification of the bid must accompany the written notice.

- 22.3 No Bid may be modified after the deadline for submission of Bids.
- 22.4 Withdrawal of a Bid between the deadline for submission of bids and the expiration of the period of Bid validity specified in the BDS or as extended pursuant to Sub-Clause 15.2 may result in the forfeiture of the Bid Security pursuant to Clause 16.
- 22.5 Bidders may only offer discounts to, or otherwise modify the prices of their bids by submitting Bid substitutions or modifications in accordance with this clause, or included in the original Bid submission.

E. Bid Opening and Evaluation

23. Bid Opening

- 23.1 The Procuring Entity will open the bids, including substitutions and modifications made pursuant to Clause 22, in the presence of the bidders' representatives who choose to attend at the time and in the place specified in the BDS.
- 23.2 Envelopes marked "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding bid being substituted, and the substituted bid shall not be opened, but returned to the Bidder. . No bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorisation to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorisation to request the modification and is read out at bid opening.
- 23.3 The bidders' names, the Bid prices, the total amount of each Bid and of any alternative Bid (if alternatives have been requested or permitted), any discounts, Bid modifications and withdrawals, the presence or absence of Bid Security, will all be announced by the Procuring Entity at the bid opening. Any such other details as the Procuring Entity may consider appropriate, will also be announced.
- 23.4 Bids, substitutions or modifications that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. In particular, any discount offered by a Bidder, which is not read out at bid opening shall not be considered further.
- 23.5 The Procuring Entity will prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.3. Copies of the minutes will be made available to any Bidder who requests them.
- 23.6 No bid will be rejected at bid opening except for late bids, which will be returned unopened to the bidder, pursuant to ITB Clause 21.

24. Process to be Confidential

Information relating to the examination, clarification, evaluation and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Procuring Entity's processing of bids or award decisions may result in the rejection of his Bid.

25. Clarification of Bids and Contacting the Procuring Entity

Part I: Section 1-Instructions to bidders

- 25.1 To assist in the examination, evaluation and comparison of bids, the Procuring Entity may, at the Procuring Entity's discretion, ask any Bidder for clarification of the Bidder's Bid, including breakdowns of unit rates (or in the case of a lump sum contract, the prices in the Activity Schedule). The request for clarification and the response shall be in writing, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of the bids in accordance with Clause 27.
- 25.2 Subject to sub-clause 25.1 no Bidder shall contact the Procuring Entity on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Procuring Entity, it should do so in writing.
- 25.3 Any effort by the Bidder to influence the Procuring Entity in the Procuring Entity's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidder's bid.

26. Examination of Bids and Determination of Responsiveness

- 26.1 Prior to the detailed evaluation of bids, the Procuring Entity will determine whether each Bid (a) meets the eligibility criteria defined in ITB Clause 3; (b) has been properly signed; (c) is accompanied by the required Bid Security; and (d) is substantially responsive to the requirements of the bidding documents.
- 26.2 A substantially responsive Bid is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the bidding documents, the Procuring Entity's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 26.3 If a Bid is not substantially responsive, it will be rejected by the Procuring Entity, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27. Correction of Errors

- 27.1 Bids determined to be substantially responsive will be checked by the Procuring Entity for any arithmetic errors.
- 27.2 Errors will be corrected by the Procuring Entity as follows:
- (a) For ad-measurement contracts only, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;
 - (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - (c) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 27.3 The amount stated in the Bid will be adjusted by the Procuring Entity in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid will be rejected, and the Bid Security may be forfeited in accordance with Sub-Clause 16.6(b).

28. Currency for Bid Evaluation

28.1 Bids will be evaluated as quoted in Malawi Kwacha.

29. Evaluation and Comparison of Bids

29.1 The Procuring Entity will evaluate and compare only the bids determined to be substantially responsive in accordance with Clause 26.

29.2 In evaluating the bids, the Procuring Entity will determine for each Bid the evaluated Bid price by adjusting the Bid price as follows:

- (a) making any correction for errors pursuant to Clause 27;
- (b) excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities or Activity Schedule, but including Day work, where priced competitively;
- (c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with Clause 17; and
- (d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub-Clause 22.5.

29.3 The Procuring Entity reserves the right to accept or reject any variation or deviation. Variations, deviations, and other factors which are in excess of the requirements of the bidding documents or otherwise result in unsolicited benefits for the Procuring Entity will not be taken into account in Bid evaluation.

30. Domestic Preference

30.1 If so indicated in the BDS, domestic Bidders or other Bidders using Malawian nationals to carry out the works shall receive a margin of preference in Bid evaluation in accordance with the procedure and criteria specified in Section 3, Evaluation and Qualification criteria.

F. Award of Contract

31. Award Criteria

31.1 Subject to Clause 32, the Procuring Entity will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3, and (b) qualified in accordance with the provisions of Clause 4.

32. Procuring Entity's Right to Accept a Bid and to Reject any or all Bids

32.1 Notwithstanding Clause 31, the Procuring Entity reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Procuring Entity's action.

33. Notification of Award and Signing of Agreement

33.1 The Bidder whose Bid has been accepted will be notified of the award in writing by the Procuring Entity prior to expiration of the Bid validity period. This notification (hereinafter and in the General Conditions of Contract called the "Notice of Acceptance") will state the sum that the Procuring Entity will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price"). The Procuring Entity shall publish in the Malawi Government Gazette the results of the award of contract, as required by the Public Procurement Act 2003.

Part I: Section 1-Instructions to bidders

- 33.2 The notification of award will constitute the formation of the Contract, subject to the Bidder furnishing the Performance Security in accordance with Clause 34 and signing the contract in accordance with Sub-Clause 33.3.
- 33.3 The Contract will incorporate all agreements between the Procuring Entity and the successful Bidder. It will be signed by the Procuring Entity and sent to the successful Bidder, within twenty-eight (28) days following the notification of award. Within thirty (30) days of receipt, the successful Bidder will sign and date the Contract and deliver it to the Procuring Entity.
- 33.4 Upon the furnishing by the successful Bidder of the Performance Security, the Procuring Entity will, within one (1) week, notify the other bidders that their bids have been unsuccessful.

34. Performance Security

- 34.1 Within thirty (30) days after receipt of the Notice of Acceptance, the successful Bidder shall deliver to the Procuring Entity a Performance Security in the form of a Bank Guarantee, or other form acceptable to the Procuring Entity in the amount and denominated in the type and proportions of currencies specified in the Special Conditions of Contract.
- 34.2 The Performance Security shall be issued by a financial institution operating in Malawi.
- 34.3 Failure of the successful Bidder to comply with the requirements of Sub-Clause 34.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

35. Adjudicator

- 35.1 The Procuring Entity proposes the person named in the BDS to be appointed as Adjudicator under the Contract, at an hourly fee specified in the BDS, plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If, in the Notice of Acceptance, the Procuring Entity has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by the Appointing Authority designated in the SCC at the request of either party.

36. Corrupt or Fraudulent Practices

- 36.1 The Government of the Republic of Malawi (hereinafter called "the Government") requires that Procuring Entities, as well as Bidders and Suppliers under government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Government:
- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
 - (ii) "fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
 - (iii) "collusive practices" means a scheme or arrangement between two or more Bidders, with or without the knowledge of the Procuring Entity, designed to establish prices at artificial, non-competitive levels; and
 - (iv) "coercive practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract.
 - (b) will reject a recommendation for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the contract in question;
 - (c) will debar a Bidder from participation in public procurement for a specified period of time if it at any time determines that the firm has engaged in corrupt, fraudulent, collusive or coercive practices in competing for, or in executing, a contract.

Section 2. Bid Data Sheet

Section 2. Bid Data Sheet

Instructions to Bidders (ITB) reference	Data relevant to ITB
A. General	
ITB 1.1	<p>The Procuring Entity is the Roads Authority of Malawi. The scope of works involve the upgrading of the existing earth road to bitumen standard of 2 lanes with a standard cross-section of 3.4m carriageway and 1.5m shoulder on each side and the construction of several drainage structures. The road has been divided into three (3) Lots for implementation purposes</p> <ul style="list-style-type: none"> • Lot 1 starting from Chitipa (km 0+000) to km 10+000, • Lot 2 from Km10+000 to Km 20+000 • Lot 3 from Km 20+000 to Km 31+000 Songwe border at Ilomba.
ITB 3.1	(d) be those whose directors are local Malawians
ITB 7.2	<p>The Roads Authority shall hold a pre-bid meeting preceded by a site visit. The site visit will be held, as follows:</p> <p style="margin-left: 40px;">Location: Chitipa Boma Date: 7th June 2022 Time: 08:00 Hours</p> <p>A pre-bid meeting will be held immediately after the site visit.</p>
B. Bidding Documents	
ITB 8.1	<p>Volume 2 (Drawings) is part of the Bidding Document Volume 3 (FIDIC GCC) is part of the Bidding Document Volume 4 (SATCC Standard Specifications) is part of the Bidding Document</p>
ITB 9.1	<p>For clarification purposes only, the Procuring Entity's address is: The Chief Executive Officer Contact: The Chairperson – Internal Procurement and Disposal Committee The Roads Authority Functional Building, Off Paul Kagame Road Private Bag B346 Lilongwe 3 MALAWI</p> <p>Attention: The Procurement Manager Telephone: (265) 1 753 699 Fax number: (265) 1 750 307 Email: jpc@ra.org.mw / mmalinda@ra.org.mw</p>
C. Preparation of Bids	
ITB 12.1	<p>The Bidder shall submit the following additional documents in its Bid:</p> <p>Code of Conduct for Contractor's Personnel (ES) The Bidder shall submit its Code of Conduct that will apply to Contractor's Personnel (as defined in Sub-Clause 1.1.17 of the General Conditions of Contract), to ensure compliance with the Contractor's Environmental and Social (ES) obligations under the Contract. The Bidder shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Bidder may introduce additional requirements, including as necessary to take into account specific Contract issues/risks.</p> <p>Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks <i>The Bidder shall submit Management Strategies and Implementation Plans</i></p>

Part I: Section 2-Bid Data Sheet

	<p>(MSIPs) to manage the following key Environmental and Social (ES) risks in alignment with the project ESIA/ESMP:</p> <ul style="list-style-type: none"> • Water Resource Protection Plan to prevent contamination of drinking water; • Strategy to manage the environment including waste management measures; • Strategy to manage public and occupational health and safety, include HIV prevention measures, a grievance mechanism and GBV/SEA/VAC prevention and response plan for workers to raise workplace related concerns; • Labour influx Management Plan • COVID - 19 Prevention and Management Plan <p>The Contractor shall be required to submit for approval, and subsequently implement, the Contractor's Environmental and Social Management Plan (C-ESMP), in accordance with the Particular Conditions of Contract Sub-Clause 4.1, that includes the agreed Management Strategies and Implementation Plans described here.</p>
ITB 13.1	The Contract is an Ad-measurement Contract.
ITB 13.5	Bid Prices shall not be subject to adjustment during performance of the contract.
ITB 15.1 and 22.4	Bids shall remain valid for a period of 120 days.
ITB 16.1	The bid security shall be a Bid Securing Declaration Form in the format provided in Section IV.
ITB 17.1	Alternative proposals to the requirements of the bidding documents shall not be permitted.
ITB 18.1	<p>In addition to the Original of the bid, the number of copies is:</p> <ol style="list-style-type: none"> 1) <u>2 Hard Copies</u> 2) <u>A Soft Copy of the whole document in pdf format and a Soft Copy of priced bills of quantities in excel format on the same CD clearly labelled Company Name and Contract Number</u> <i>(Failure to submit an original and a copy shall be cause for disqualification)</i>
D. Submission of Bids	
ITB 19.2(a)	<p>For bid submission purposes only, the Roads Authority's address is: The Chief Executive Officer Contact: The Chairperson – Internal Procurement and Disposal Committee The Roads Authority Functional Building, Off Paul Kagame Road Private bag B346 Lilongwe 3 MALAWI Room Number: 21</p>
ITB 19.2(b)	The Procurement Reference Number is: RA/DEV/CP/2022-2023/01
ITB 20.1	<p>The deadline for bid submission is: Date: 27th June 2022 Time: 10:00 Hours</p>
ITB 23.1	<p>The bid opening shall take place in the conference room at: The Roads Authority Functional Building, Off Paul Kagame Road Private bag B346 Lilongwe 3 Date: 14th June 2022 Time: 10:00 Hours</p>
F. Award of Contract	
ITB 30.1	Section 44 sub-section 10 of the Public Procurement and Disposal of Public Assets Act shall be adhered to.
ITB 35.1	<p>The Adjudicator proposed by the Procuring Entity is: the Malawi Engineering Institution The hourly fee for this proposed Adjudicator shall be: To Be Determined</p>

Section 3. Evaluation and Qualification Criteria

Section 3. Evaluation and Qualification Criteria

This section, read in conjunction with Section 1, Instructions to Bidders and Section 2, Bid Data Sheet, contains all the factors, methods and criteria that the Procuring Entity shall use to evaluate a bid and determine whether a bidder has the required qualifications. Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel, and relevance of site organization, work methods, mobilization and construction scheduling, Code of Conduct (ES) and Management Strategies and Implementation Plans (MSIP) to manage ES risks. No other factors, methods or criteria shall be used.

1. Qualification Criteria

The information required from bidders in ITB Sub-Clause 4.3 is modified as follows: None

The requirements for joint ventures in ITB Sub-Clause 4.4 are modified as follows: None

To qualify for award of the Contract, in accordance with ITB Sub-Clause 4.5, bidders shall meet the minimum qualifying criteria:

- (a) Average annual volume of construction work over the past three (3) of at least MK 2 Billion;
- (b) experience as prime contractor in the construction of at least three (3) works contracts of a nature and complexity equivalent to the Works over the last five (5) years (to comply with this requirement, works cited should be at least seventy (70) percent complete);
- (c) proposals for the timely acquisition (**owned**) of the following essential equipment:

	Description	No
1	Self-propelled graders;	4
2	Dozers;	2
3	Tonnes Crane;	1
4	Loaders and/or excavators;	4
5	10m ³ Tippers;	7
6	pneumatic-tyred rollers (123kw, 10t);	2
7	Vibrating Rollers (123kw, 10t);	3
8	Water Bowsers (10,000 to 18,000 litre).	6

- (d) proposals for the timely acquisition (**owned, leased, hired, etc.**) of the following essential equipment:

	Description	No
1	Bitumen distributor;	1
2	Asphalt Paver (at least 5.94m width capacity).	1

- (e) personnel with the following qualifications and experience in similar works:

S/N	Position	Requirements
1	Site Agent:	Minimum of degree in Civil Engineering and at least ten years of experience; Materials Engineer with at least eight (8) years' experience;
2	Land Surveyor:	minimum diploma in Survey and at least eight years of experience;
3	1 x Environmental,	Occupational Health and Safety Expert: A minimum qualification of a degree or diploma in a relevant discipline with at least two years' experience;
4	1 x Social Expert:	A minimum qualification of a degree or diploma in a relevant discipline with at least two years' experience;
5	5 x Foremen:	Minimum of Diploma in Civil Engineering/Road Foremanship Certificate or equivalent with at least seven years' experience;

Part I: Section 3-Evaluation and qualification information

- (f) Liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, should be MK 600 Million kwacha.

A consistent history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

The figures for each of the partners of a joint venture shall be added together to determine the Bidder's compliance with the minimum qualifying criteria in (a) and (e) above; however, for a joint venture to qualify, each of its partners must meet at least twenty-five (25) percent of minimum criteria (a), (b), and (e) above for an individual Bidder, and the partner in charge at least forty (40) percent of those minimum criteria. Failure to comply with this requirement will result in rejection of the joint venture's Bid.

Subcontractors' experience and resources will not be taken into account in determining the Bidder's compliance with the qualifying criteria.

2. Application of Domestic Preference

Domestic Preference is not applicable in this bid

Section 4. Bidding Forms

Section 4. Bidding Forms

List of Forms

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Note: All forms show the information to be completed by the Bidder in bold in square brackets e.g. **[insert date]** etc.

Part I: Section 4-Bidding Forms

Note to Bidders: This Bid Submission Form should be on the letterhead of the Bidder and should be signed by a person with the proper authority to sign documents that are binding on the Bidder. If the Bidder objects to the Adjudicator proposed by the Procuring Entity, he should so state in his Bid, and present an alternative candidate, together with the candidate's daily fees and biographical data, in accordance with Clause 35 of the Instructions to Bidders.

4.1 Letter of Bid

Date: **[insert date]**

Procurement Reference No.: **[insert procurement reference number]**

Page **[insert page number]** of **[insert total number of pages]** pages

To: **[insert complete name of Procuring Entity]**

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: **[insert the number and issuing date of each Addenda]**;
- (b) We offer to execute the **[insert the name and procurement reference number of the Contract]** in conformity with the Bidding Documents for the Contract Price of **[insert amount in numbers and words]** Malawi Kwacha;
- (c) The advance payment required is: **[insert amount in numbers and words]** Malawi Kwacha;
- (d) Our bid shall be valid for a period of **[specify the number of days that the bid is valid for]** calendar days from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 20.1, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) We have no conflict of interest in accordance with ITB Sub-Clause 3.5;
- (f) Our firm, its affiliates, or subsidiaries—including any subcontractors or suppliers for any part of the contract—has not been debarred from participation in public procurement by the Government of the Republic of Malawi, in accordance with ITB Sub-Clause 3.7;
- (g) Our firm, its affiliates, or subsidiaries, including subcontractors or suppliers for any part of the contract are not under investigation by the Anti-Corruption Bureau or any other law enforcement body in Malawi relating to participation in any public procurement tender exercise or execution of any public procurement contract relating to the purchase of goods, works and services by any Procuring Entity;
- (h) The names and physical addresses of the Directors of our firm are provided in the table below or we enclose a copy of our latest Audited Accounts (issued within the last twenty-four (24) months):

Name	Address

Part I: Section 4-Bidding Forms

- (i) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (j) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (k) We accept the appointment of **[insert name of adjudicator proposed in the BDS]** as the Adjudicator. [or] We do not accept the appointment of **[insert name of adjudicator proposed in the BDS]** as the Adjudicator, and propose instead that **[insert name]** be appointed as Adjudicator, whose daily fees and biographical data are attached.

Signed: **[insert signature of person whose name and capacity are shown]**

In the capacity of **[insert legal capacity of person signing the Bid]**

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

Duly authorised to sign the bid for and on behalf of: **[insert complete name of Bidder]**

Dated on _____ day of _____, _____ **[insert date of signing]**

Part I: Section 4-Bidding Forms

Note to Bidders: Bidders shall submit fully priced Bill of Quantities for Ad-measurement Contracts or Activity Schedule for Lump Sum Contracts as provided in Section 6 of the Bidding Documents. Each page of the Bill of Quantities or the Activity Schedule should be signed by a person with the proper authority to sign documents for the Bidder

4.2 Bill of Quantities

PREAMBLE TO BILL OF QUANTITIES

1. GENERAL

- 1.1 This Preamble and the Bill of Quantities form an integral part of the Contract Documents. The Bill of Quantities shall be read in conjunction with the Instruction to Bidders, Conditions of Contract, Technical Specifications, and Drawings.
- 1.2 The quantities given in the Bill of Quantities are estimated and provisional. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineers' Representative and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Supervisors' Representative may fix within the terms of the Contract.
- 1.3 The rates and prices tendered in the priced Bill of Quantities shall, except in-so-far as it is otherwise provided under the Contract, include the cost of all constructional plant, labour, supervision, materials tests for quality control, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
- 1.4 A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
- 1.5 The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities. Where no items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of work.
- 1.6 General directions and descriptions of work and materials are not necessarily repeated nor summarised in the Bill of Quantities. The bidder is advised to refer to the relevant sections of the contract documentation before entering prices against each item in the priced Bill of Quantities.
- 1.7 Provisional Sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Supervisors' Representative after obtaining approval of the Employer.
- 1.8 The method of measurement of completed work for payment shall be in accordance with the measurement and payment item in the General and Particular Specifications.
- 1.9 Errors will be corrected by the Employer for any arithmetic errors in computation or summation as follows:
 - (a) where there is a discrepancy between amounts in figures and in words, the amount in words will govern; and
 - (b) where there is a discrepancy between the unit rate and the total amount derived from the multiplication of the unit price and the quantity, the unit rate as quoted will govern.

Part I: Section 4-Bidding Forms

- 1.10 The quantities of material or work stated in the Bill of Quantities shall not be regarded as constituting authorisation to the Contractor to order materials or execute work. The Contractor shall obtain the Supervisors' Representatives' detailed instructions for all work before ordering any materials or executing work or making arrangements therefore.
- 1.11 The short descriptions given of pay items in the Bill of Quantities are only for the purposes of identifying the items and providing specific details. Reference shall be made inter alia to the Drawings, Specifications, and Conditions of Contract for more detailed information regarding the extent of the work entailed under each item.
- 1.12 All rates and sums of money quoted in the Bill of Quantities shall be in Malawi Kwacha.
- 1.13 The Priced Bill of Quantities for the Upgrading of Chitipa – Ilomba road shall be priced and summed up.
- 1.14 For the purpose of this Bill of Quantities, the following works shall have the meanings hereby assigned to them:

Unit	The unit of measurement for each item of work as defined in the Project Specifications.
Quantity	The number of units of work for each item.
Rate	The payment per unit of measurement at which the Tenderer tenders to do the work.
Amount	The product of the quantity and the rate tendered for an item.
Lump sum	An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere but the quantity of work of which is not measured in any units.
Prime Cost Sum	A sum included in the Contract and so designated in the Schedule of Quantities for covering the prime cost of goods or materials to be supplied under the Contract and for delivery of such items to storage on site. The amount to be paid to the Contractor shall be the actual price paid by him

- 1.15 The Tenderer shall fill in a rate or a lump sum for each item where provision has been made for it even where no quantities are given. Items against which no rate or lump sum has been entered in the tender will not be paid for when the work is executed, as it is assumed that the contractor does not wish to receive payment for any such work.

The Tenderer shall fill in a rate against all items where the words “rate only” appear in the amount column. The provisions of Subclause 1209(f) of the Standard Specifications shall apply to rate-only items.

The Tenderer shall not group a number of items together and tender one rate or lump sum for such group of items. The Tenderer also shall not indicate against any item that full compensation for such item has been included in another item. The Tenderer may not tender a zero rate for any item, failure to comply with this requirement may result in the tender being rejected.

The tendered lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the Contract.

- 1.16 The works as executed will be measured for payment in accordance with the methods described in the Contract Documents under the various payment items, notwithstanding any custom to the contrary.

Attention is directed to the provisions of Clause 1220 of the Standard Specifications regarding the

Part I: Section 4-Bidding Forms

measurement of quantities for payment. Except where otherwise specified as in Clause 1220, the net measurements or mass of the finished work in place shall be taken for payment but excluding any volume or mass of work in excess of that ordered.

- 1.17 The short descriptions of the payment items given in the Bill of Quantities are only for the purposes of identifying the items and providing specific details. Reference shall be made, inter alia, to the drawings, Standard Specifications, Particular Specifications, General Conditions of Contract and Special Conditions of Contract for more detailed information regarding the extent of the work entailed under each item.
- 1.18 The pay item numbers that appear in the Bill of Quantities refer to the corresponding item numbers in the Standard Specifications. Certain pay item numbers appearing in the Schedule of Quantities are prefixed by the letter PS. This letter signifies that either:
- (a) a new pay item not listed in the Standard Specification has been described and listed in the Particular Specification, or
 - (b) an existing measurement and / or payment clause occurring in the Standard Specifications has been clarified and / or modified in the Particular Specifications.

The listing of pay items with or without a PS prefix where relevant has, as stated, been done to assist Bidders and in no way absolves Bidders from the obligation to familiarise themselves with, and bid on the basis of the Documents as a whole. No claim based on errors in or omissions of pay item numbers and / or the prefix PS in the columns headed "Pay Item" in the Bill of Quantities will be considered.

- 1.19 Where a Pay Item has the unit of measurement equal to % the Tenderer must enter the percentage required by him under the "Rate" column, e.g. for 5% enter 5,0 not 0,05.

2. SCHEDULE OF DAY WORK RATES

- 2.1 The Schedule of Day work Rates shall be used to calculate the payment due for work ordered as Day works, and for which no rates appear in the Bill of Quantities.
- 2.2 The description of the work, quality of materials and standard of workmanship shall be as described in the Specification.
- 2.3 The prices quoted in the Schedule shall cover all the necessary insurances, use and maintenance of ordinary plant (e.g. barrows, running planks, hand pumps, hand tools and appliances generally), superintendence, overhead charges and profit, and in the case of mechanically operated plant, the wages of the operator and assistant, consumables, stores, fuel, maintenance and transportation of plant to site.
- 2.4 The time of gangers, overseers, or charge hands working with their gangs, is to be paid for under appropriate items, but the time of Foremen is not to be included. This is to be covered by superintendence. The time actually spent by labour on work shall be recorded for this purpose.
- 2.5 The price quoted for labour shall be for straight time only and no overtime rates shall be payable. Rates shall only be paid for artisans working at their trade.

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- 2.6 The rates for materials shall cover distribution within the site. Delivery to the site shall be charged in addition.
- 2.7 The cost of additional watching and lighting and other incidentals specially necessitated by Day works shall not be paid for separately.
- 2.8 The rates given in the Schedules shall be taken to be operative at the time of Bidding.
- 2.9 Day works shall be carried out on the written instructions from the Supervisors' Representative.
- 2.10 The description of the plant should be completed by the Bidder when bidding.

BILLS OF QUANTITIES

CHITIPA – ILOMBA ROAD-LOT 1

UPGRADING OF CHITIPA-ILOMBA ROAD-Lot 1
Procurement Reference No.: RA/DEV/CP/2022-2023/01

Item	Sub Item	Description	Unit	Quantity	Rate (MWK)	Amount (MWK)
SERIES 1000: GENERAL						
1300		CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS				
PS13.01		Contractor's general obligations				
	(a)	Fixed obligations	Lump Sum	1		-
	(b)	Value-related obligations	Lump Sum	1		-
	(c)	Time-related obligations	Month	18		-
PS13.02		Authorised Compensations				
	(a)	Provisional sum for authorised compensations	Prov.Sum	1	20,000,000.00	20,000,000.00
	(b)	Handling costs and profit on sub-items PS13.02(a)	%			-
PS13.03		Relocation of services				
	(a)	Provisional Sum for the protection and relocation of services	Prov.Sum	1	10,000,000.00	10,000,000.00
	(b)	Handling costs and profit on sub-items PS13.03(a)	%			-
PS13.04		Construction of Project Sign Boards	No.	2		-
PS13.05		Contractor's Environmental and Social obligations				
	(a)	Allow for the undertaking and implementation of all the requirements of the Environmental and Social Management Plan	L.Sum	1.00		
	(b)	Provide assistance and environmental training to the surrounding community	Prov.Sum	1.00	5,000,000.00	5,000,000.00
	(c)	Handling costs, profit and overheads in respect of item 13.05 (b)	%			
	(d)	Provide assistance and Road Safety training to	Prov.Sum	1.00	5,000,000.00	5,000,000.00

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		staff and the surrounding community				
	(e)	Handling costs, profit and overheads in respect of Item 13.05(d)	%			
PS13.06		HIV/Aids and Occurrence of Pandemic Awareness Training				
	(a)	Training	Prov.Sum	1	5,000,000.00	5,000,000.00
	(b)	Remuneration of the workers undergoing training	Prov.Sum	1	5,000,000.00	5,000,000.00
	(c)	Handling costs and profit in respect of sub-items PS13.06(a) and (b) above	%	0%		
PS13.07		Public Awareness Programmes				
	(a)	Television and radio broadcast and print media publications	Prov Sum	1	5,000,000.00	5,000,000.00
	(b)	Sensitisation of the surrounding community	Prov Sum	1	5,000,000.00	5,000,000.00
	(c)	Handling costs and profit in respect of sub-items PS13.07(a) and (b) above (stated as % and extend as an amount)	..%			
TOTAL 1300 CARRIED FORWARD TO SUMMARY						60,000,000.00

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
1400		HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL				
PS14.01		Laboratory Accommodation				
	(a)	Provision of Laboratory accommodation as specified laboratory	Lump Sum	1		-
PS14.02		Laboratory Furniture				
		Laboratory furniture as specified in the Particular Specifications	Lump Sum	1		-
PS14.03		Laboratory Fittings, installations and Equipment				

		Laboratory fittings, installations and equipment as specified in the Particular Specifications	Lump Sum	1		
PS14.08	(a)	Services: Services at laboratory	Month	18		-
PS14.12		Security at Engineer's laboratory	Month	18		-
PS14.13	(a)	Provision of semi-skilled labour for use by the Engineer Provision of labourers	Prov. Sum	1	6,000,000.00	6,000,000.00
	(b)	Handling costs and profit in respect of sub-item PS14.13(a) (stated as % and extend as an amount)	%			-
TOTAL 1400 CARRIED FORWARD TO SUMMARY						
						6,000,000.00
1500		ACCOMODATION OF TRAFFIC Accommodating traffic, including all notices, signing, construction, providing, maintaining and reinstating temporary diversions				-
PS15.01			km	10		
TOTAL 1400 CARRIED FORWARD TO SUMMARY						
						-
1700		CLEARING AND GRUBBING Clearing and grubbing within the road reserve	ha	10		-
PS17.01	(i)	Removal and grubbing of large trees and tree stumps.				
17.02	(a)	girth exceeding 1.0 m up to and including 2 m	No.	70		-
	(b)	girth exceeding 2.0 m up to and including 3 m	No.	35		-
PS 17.04		Demolition, dismantling, removal and clearing of existing structures				
	(a)	Masonry structures	m ³	225		-
	(b)	Concrete structures	m ³	170		-
PS 17.05		Treatment of ant or termite holes with approved Insecticide	m ²	1700		
TOTAL 1700 CARRIED FORWARD TO SUMMARY						
						-

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
PS1800		DAYWORKS SCHEDULE				
PS18.01		Personnel during normal working hours				
	(a)	Unskilled labour	Hr	20		-
	(b)	Semi - skilled labour	Hr	20		-
	(c)	Skilled labour	Hr	20		-
	(d)	Ganger	Hr	20		-
	(e)	Flagmen	Hr	20		-
	(f)	Operators	Hr	20		-
	(g)	Foremen	Hr	20		-
	(h)	Surveyor	Hr	20		-
	(i)	Lab technician	Hr	20		-
PS18.02		Personnel outside normal working hours				
	(a)	Unskilled labour	Hr	20		-
	(b)	Semi - skilled labour	Hr	20		-
	(c)	Skilled labour	Hr	20		-
	(d)	Ganger	Hr	20		-
	(e)	Flagmen	Hr	20		-
	(f)	Operators	Hr	20		-
	(g)	Foremen	Hr	20		-
	(h)	Surveyor	Hr	20		-
	(i)	Lab technician	Hr	20		-
PS18.03		Plant				
	(a)	Tip truck 10m ³ .	Hr	10		-
	(b)	Motor grader complete with scarifier (CAT 14G or equivalent)	Hr	10		-
	(c)	Wheeled loader (CAT 980G or equivalent)	Hr	10		-
	(d)	TLB (CAT 450 or equivalent).	Hr	10		-
	(e)	Water bowser – self propelled (10,000 Litres)..	Hr	10		-
	(f)	Vibratory roller (123kw,10t)	Hr	10		-
	(g)	Pneumatic roller (123kw,10t)	Hr	10		-
	(h)	Grid roller with tractor (5-7t).	Hr	10		-
TOTAL 1800 CARRIED FORWARD TO NEXT PAGE						-

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
BROUGHT FORWARD FROM PREVIOUS PAGE						-

Part I: Section 4-Bidding Forms

	(j)	Tractor (110 HP)	Hr	10		-
	(k)	Tracked excavator (CAT 223 or equivalent) .	Hr	10		-
	(l)	Bulldozer (CAT D8R or equivalent) .	Hr	10		-
	(m)	Excavator (CAT 225 or equivalent)	Hr	10		-
	(n)	Concrete Mixer (15HP 0.5m³)	Hr	10		-
	(o)	Water Pump	Hr	10		-
PS18.04		Materials				
	(a)	Procurement of materials	Prov.Sum	1	3,000,000.00	3,000,000.00
	(b)	Contractor's handling costs, profit and all other charges in respect of sub item PS18.04(a)	%			-
PS18.05		Transport				
	(a)	LDV	Kilometre	5,000		-
	(b)	Flatbed truck	Kilometre	2,500		-
TOTAL 1800 CARRIED TO SUMMARY						3,000,000.00

SERIES 2000: DRAINAGE

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
2000		DRAINAGE				
2100		DRAINS				

Part I: Section 4-Bidding Forms

21.01		Excavating for open drains:				-
	(a)	Excavating soft material situated within the following depth ranges below the surface level:				-
		(i) 0 m up to 1.5 m	m ³	7,500.00		
		(ii) Exceeding 1.5 m and up to 3.0 m	m ³	1,700.00		
21.02		Clearing and shaping existing open drains	m ³	1,000.00		
21.05		Banks and dykes	m ³	1,400.00		
21.18		Excavation for the clearing of existing drainage systems:				
	(a)	Manholes and inlet and outlet structures	m ³	40.00		
	(b)	Culvert barrels	m ³	170.00		
	(c)	Concrete side drains and drifts	m ³	170.00		
21.19		Selected backfill material under concrete-lined side drains				
		compacted to 93% of modified AASHTO density	m ³	40.00		
PS21.20		Backfill existing drains within road prism	m ³	40.00		
TOTAL 2100 CARRIED TO SUMMARY						-
2200		PREFABRICATED CULVERTS				
22.01	(a)	Excavation in all type of material to any depth, including trimming, sloping and disposal of material	m ³	3,600		-
	(b)	Extra over Subitems PS22.01(a) for excavation in hard material, irrespective of depth	m ³	250		
PS22.02		Backfilling				-
	(a)	Using the excavated material	m ³	360		
	(b)	Using imported selected material	m ³	900		
	(c)	Extra over Subitems PS22.02(a) and (b) for soil cement backfilling (3% cement)	m ³	180		
22.03	(b)	Concrete pipe culverts on Class B bedding (spigot and socket pipes, SABS 677, Class 50D Culverts)	m			-
		(i) 600mm diameter	m			-
		(ii) 900mm diameter	m	300		
22.07		Cast insitu concrete and formwork				

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	(c)	In inlet and outlet structures, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surface finish (25/19 class of concrete)	m ³	60		
	(d)	Formwork of concrete under item 22.07(c) above (to provide Type F2 finish)	m ²	365		
22.08		Concrete backfill for culverts (Class 15/19 concrete)	m ³	80		
22.10		Steel Reinforcement				
	(b)	High-tensile steel bars	t			
	(c)	Welded steel fabric	kg	6,000		
22.12		Removing Existing Concrete				
	(a)	Plain concrete	m ³	250		
	(b)	Reinforced concrete	m ³	60		
PS22.14		Removing and stacking existing culverts of all sizes and types	m	300		
22.18		Brickwork:				
	(a)	115 mm thick	m ²	60		
	(b)	230mm thick	m ²	15		
22.19		Plaster	m ²	75		
22.20		Benching	m ²	8		
22.21		Accessories				
	(a)	Manhole covers including frames SABS Type 8B	No	3		
22.23		Service ducts				
	(a)	Ordinary pipes (PVC, not exceeding 300mm diameter)	m	42		
22.24		Duct marker blocks as per drawing No.BMM-NSMR-2018-02-GD	No	3		
PS22.29		Cement Mortared Masonry	m ²	1,000		
TOTAL 2200 CARRIED FORWARD TO SUMMARY						

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
2300		CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS				
23.01		Concrete Kerbing (Class 25 for cast in situ concrete)				-

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23.04	(a)	Rectangular (As per kerb drawing) Cast in situ concrete chutes (measured by components)	m	1,250	-
23.05	(a)	Concrete class 25/19	m ³	25	
	(b)	Formwork, F2 surface finish	m ²	50	
23.07		Inlet, outlet, transition and similar structures (as per standard drawings)			
	(b)	Formwork, F2 surface finish	m ²	5	
PS23.08		Trimming of excavations for concrete-lined open drains			
	(a)	In soft material	m ²	88	
	(b)	In hard material	m ²	3	
PS23.08		Concrete lining for open drains: Cast in situ concrete lining (Concrete Class 20/19) for open drains (All types of drains including formwork Class F2 surface finish, sealing of joints with approved sealant and weep holes)			-
	(i)	75mm thick to vertical or inclined surfaces	m ²	150	-
	(ii)	100mm thick to horizontal surfaces	m ²	188	-
	(b)	Concrete class 20/19 in Precast Slabs 150mm thick to bridge open drain including reinforcement and all formwork (Cross over Slabs as specified in Drawing No. CP-ILOM-TZ/TSH/601)	m ³	40	
		Steel reinforcement			
23.12	(c)	Welded steel fabric	kg	13,350.00	
PS23.16		Brickwork and Block work 150mm hollow blocks filled with class 20/19 concrete with one 12mm dia mild steel bar per hole (for use on support to cross over slabs)	m ²	150	-
PS23.17		Plaster to brickwork	m ²	150	
TOTAL 2300 CARRIED FORWARD TO SUMMARY					

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2500		PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
25.01		Stone Pitching				
	(b)	Grouted Stone Pitching	m ²	2,500		-
25.03		Stone masonry walls				
	(b)	Cement mortared stone walls	m ³	150		-
25.04		Concrete Pitching and Block Paving				
	(d)	Prefabricated concrete paving blocks for sidewalk pavement (75mm Thick)	m ²	1,000.00		-
TOTAL 2500 CARRIED FORWARD TO SUMMARY						
2600		GABIONS				
26.01		Foundation trench excavation and backfilling				-
	(b)	In all other classes of material	m ³	190		-
26.02		Surface preparation for bedding the gabions	m ²	470		-
26.03		Gabions:				-
		PVC-coated gabion boxes (2m length, 1m width, 1m height and 1m diaphragm spacing. Norminal mesh size of 80mm x 100mm and nominal wire size of 2.7mm diameter.	m ³	470		-
	(a)	Galvanised Gabion Mattresses				-
	(b)	0.23 deep, width 4m, length 2m, mesh size 2.2m and 1m diaphragm spacing	m ³	60		-
26.04	(i)	Filter fabric (Kaymat geotextile Grade U34 or similar approved)	m ²	190		-
TOTAL SERIES 2600 CARRIED TO SUMMARY						-

SERIES 3000: EARTHWORKS AND PAVEMENT LAYERS

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
3000		EARTHWORKS AND PAVEMENT LAYERS OF GRAVEL OR CRUSHED STONE				
3300		MASS EARTHWORKS				
PS 33.01		Cut and borrow to fill, including unlimited free haul distance				

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	(a)	Gravel or soft fill material in compacted layer thicknesses of 200mm or less				-
	(ii)	Compacted to 90% modified AASHTO	m ³	80,500		
	(ii)	Compacted to 95% modified AASHTO	m ³	34,500		
PS33.03	(f)	Sand filter blanket	m ³	81		-
		Extra over 33.01 for excavating and breaking down material in:				-
PS33.04	(a)	hard material	m ³	701		-
		Cut to spoil, including unlimited free haul, material obtained from				
	(a)	Soft excavation	m ³	40,250		
PS33.07	(b)	Hard excavation	m ³	253		
		Removal of unsuitable material obtain from any type of material and excavation in any layer thickness with unlimited freehaul	m ³	460		-
33.08		Widening of cuts (Extra over Items 33.01 and 33.04):				
	(a)	In hard materials	m ³	46		
33.09	(c)	In all other materials	m ³	46		
		Material bladed to windrow	m ³	2,300		
PS33.10		Roadbed preparation and the compaction of material to 90% or 93% Mod AASHTO density	m ³			-
	(a)	Compacted to 90% modified AASHTO	m ³	34,500		
33.11	(b)	Compacted to 95% modified AASHTO	m ³	1,150		
		Three roller passes compaction:				
	(a)	Heavy Pneumatic-tyred roller	m ²	1,955		
33.12	(b)	Vibratory roller	m ²	4,025		
		In-situ treatment of roadbed				
	(a)	'In situ treatment by ripping	m ³	201		
33.13	(b)	'In situ treatment by blasting	m ³	12		
		Finishing-off cut and fill slopes, medians and interchange areas				
	(a)	Cut slopes	m ²	4,025		
	(b)	Fill slopes	m ²	47,150		
TOTAL SERIES 3300 CARRIED TO SUMMARY						-
3400		PAVEMENT LAYERS OF GRAVEL MATERIAL				

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PS34.01		Pavement layers constructed from gravel taken from cut or borrow, including unlimited free haul, all types of excavation, excess overburden and finishing off borrow areas:				
	(a)	Gravel selected layer 150mm thickness compacted to 95% of Modified AASHTO density	m ³	15,000		
	(c)(i)	Gravel subbase (unstabilised material) in 175mm layers compacted to 95% of modified AASHTO density	m ³	17,500		
TOTAL SERIES 3400 CARRIED TO SUMMARY						-
3600 36.01	(a)	CRUSHED STONE BASE OR SUBBASE Crushed Stone Base: Constructed from crushed stone obtained from commercial sources and compacted to 102% of modified AASHTO density (nominal maximum size 37mm)	m ³	15,000.00		
TOTAL SERIES 3600 CARRIED TO SUMMARY						-

SERIES 4000: ASPHALT PAVEMENTS AND SEALS

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
4100 41.01	(c)	PRIME COAT Prime coat MC-30 cut-back bitumen	litre	120,000		-
41.02		Aggregate for blinding prime coat	m ³	2,000		-
TOTAL SERIES 4100 CARRIED TO SUMMARY						-
4200 PS42.02	(a)	ASPHALT BASE AND SURFACING Asphalt Surfacing 50mm thick using 50/70 penetration bitumen including binder and active filler variations; Continuously graded (medium grading)	m ²	107,800		-
TOTAL SERIES 4200 CARRIED TO SUMMARY						-

SERIES 5000: ANCILLARY ROAD WORKS

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Item	Sub Item	Description	Unit	Quantity	Rate	Amount
5000		ANCILLARY ROAD WORKS				
PS 50.01		Bus Bays: Construct Bus Bays as per typical bus bay drawing				
	(a)	Subbase 95% modified AASHTO in layers of 200mm	m ³	300		-
	(b)	Base Constructed from crushed stone obtained from commercial sources and compacted to 102% of modified AASHTO density (nominal maximum size 37mm)	m ³	222		-
	(c)	Class 30/20 concrete reinforced with steel mesh Ref 617 as detailed in drawing No.CP-ILOM-TZ/TSH/601	m ³	117		-
	(d)	Kerb stone Type S1 including backing with concrete	m	480		-
	(e)	Drainage outlet	No.	12		-
TOTAL SERIES 5000 CARRIED TO SUMMARY						-
5100		MARKER AND KILOMETRE POSTS				
51.01		Marker posts Class 20/20 concrete	No.	40		-
51.02		Kilometre posts	No.	6		-
PS 51.03		Road reserve demarcation beacons as detailed in drawing No. CP-ILOM-TZ/TSH/601	No.	100		-
TOTAL SERIES 5100 CARRIED TO SUMMARY						-
5200		GUARDRAILS				
PS52.13		Galvanised and painted guardrails on steel posts including end units and reflective plates as per drawings	m	420		-
TOTAL SERIES 5200 CARRIED TO SUMMARY						-
5400		ROAD SIGNS				
PS54.01		Road sign boards with painted or coloured background. Symbols, lettering and borders in Class 1 retro-reflective material, complete with posts and supports prepainted galvanised steel plate (Chromadek or approved equivalent) position as shown on				-

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	(a)	the drawings: Area not exceeding 2m ²	m ²	65	-
	(b)	Area exceeding 2m ² but not 10m ²	m ²		-
PS54.10		Erection of Standard Road signs	No	60	
TOTAL SERIES 5400 CARRIED TO SUMMARY					
-					
5500		ROAD MARKINGS			
55.03		Hot melt plastic road- marking material			
	(a)	White lines broken or unbroken 100mm wide	km	10	-
	(b)	Yellow lines, broken or unbroken 100mm wide	km	20	-
	(d)	White lettering and symbols	m ²	80	
	(f)	Traffic island markings of any colour	m ²	50	-
55.05		Bi-directional Stimsonite or similar road studs	No.	1,700	-
55.06		Setting out and premarking the lines (Excluding traffic-island markings, lettering and symbols)	km	10	-
55.07		Re-establishment of the painting unit for re- marking the road at the end of the maintenance period	lump sum	1	
TOTAL SERIES 5500 CARRIED TO SUMMARY					
-					
PS5700		LANDSCAPING AND PLANTING			
57.01		Trimming and shaping by hand and/or machine			
	(a)	Machine trimming	m ²	2500.0	
	(b)	Hand trimming	m ²	1000.0	
57.07		Mowing the grass	Ha	0.3	
TOTAL SERIES 5700 CARRIED TO SUMMARY					
-					

SERIES 6000: STRUCTURES

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
6000	STRUCTURES					
6100		FOUNDATIONS FOR STRUCTURES				
61.02	(a)	Excavation: Excavating soft material situated within the following successive depth ranges:				-
	(i)	0 m up to 2 m	m3	809		-
	(ii)	Exceeding 2m and up to 4m	m3	792		-

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61.04	(b)	Extra over Subitem 61.02(a) for excavation in hard material irrespective of depth	m3	50	-
	(c)	Extra over Subitem 61.02(a) for additional excavation required by the Engineer after the excavation has been completed	m3	50	-
	(a)	Backfill to excavations utilising: Material from the excavation	m3	100	-
	(b)	Imported material	m3	260	-
TOTAL SERIES 6100 CARRIED TO SUMMARY					
PS6200		FORMWORK AND CONCRETE FINISH			
62.02	(i)	Vertical formwork to provide: Class F1 finish to vertical walls and edges for culverts, head walls, wing walls, walkway slab and inlet & outlet structures	m2	1600	
62.03	(i)	Horizontal formwork to provide: Class F1 finish to horizontal surfaces and edges for culvert, head walls, wing walls, walkway slab and inlet & outlet structures	m2	800	
62.04	(i)	Inclined formwork to provide: Class F1 finish to any component of culverts, head walls, wing walls, walkway slab and inlet & outlet structures	m2	180	
TOTAL SERIES 6200 CARRIED TO SUMMARY					
6300		STEEL REINFORCEMENT FOR STRUCTURES			
63.01	(a)	Steel reinforcement for: Culverts, headwalls, wing walls, walkway slab, inlet and outlet structures:			
	(ii)	High yield stress deformed steel reinforcement bars, 450MPa	tonne	135	-
	(iii)	Welded steel fabric	kg	4000	
TOTAL SERIES 6300 CARRIED TO SUMMARY					

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6400		CONCRETE FOR STRUCTURES				
64.01	(a)	Cast In Situ Concrete: Class 30/19 concrete in: (i) Culverts including head walls, wing walls, etc	m ³	930		-
TOTAL SERIES 6400 CARRIED TO SUMMARY						-

SERIES 7000: TESTING AND QUALITY CONTROL

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
7000		TESTING AND QUALITY CONTROL				
7100		TESTING OF MATERIALS AND WORKMANSHIP				
71.02	(a)	Special tests requested by the Engineer				
	(a)	Cost of testing	PC Sum	1	10,000,000.00	10,000,000.00
	(b)	Charge on prime cost sum	%			-

TOTAL SERIES 7100 CARRIED TO SUMMARY				10,000,000.00
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SERIES 8000: SPEED CALMING MEASURES

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
PS8000	SPEED CALMING FEATURES					
PS8100		HUMPS AND RUMBLE STRIPS				
PS81.01	(a)	Installation of humps as per drawing detail	No.	3		-
	(b)	Installation of rumble strips in sets of five as per drawing detail	Set	3		-
TOTAL SERIES 8000 CARRIED TO SUMMARY						-

SERIES 9000: SUPPLY, INSTALLATION AND COMMISSIONING OF STREET LIGHTING SYSTEM

Item	Sub Item	Description	Unit	Quantity	Rate	Amount
PS9000						
PS90.01		Glass fibre poles as per drawing No CP-ILOM-TZ/TSH/602 at 32m apart, procuring, logistics and installation.	No.	30		
PS90.02		<p>50W ALL IN ONE SOLAR STREET LIGHT TECHNICAL SPECIFICATIONS:</p> <p>Solar Panel Power 18V/50Wp (Monocrystalline PV). Life-span 25 years</p> <p>Batteries Capacity/Type 12.8V/36AH (460.80WH) / LiFePO4 Lithium. Lifespan 5+ years (2,000 circles)</p> <p>Controller Type MPPT / Waterproof class: IP65</p> <p>Sensor Microwave Radar (PIR & Timing as optional)</p> <p>LED Light Source Rated Power 12V/ 50W (36Wx2 modules) LED Brand CREE/OSRAM (LED Lumen: 150lm/W) Lumens (LM) 2000-3000lm</p> <p>Life-span 50,000 hours Viewing Angle 1400 x 700 Full Charge Time By Solar 6-8 hours (STC: 1000W/m2, 25° C)</p>				

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		<p>Discharge Time Bright Mode >14 hours , Dim Mode >70 hours Working Temp. -30°C~+80°C Color Temp. Cool White 3000K (3000~3500k) / Space Between Lights 30~35m Materials aluminium alloy Certificate ROHS / IP65/ STQC/MNRE WARRANTY-36 MONTHS FROM THE DATE OF SUPPLY. "SPECIALISED FOR STREET LIGHTING PURPOSES"</p>	No.	30		
TOTAL SERIES 9000 CARRIED TO SUMMARY						-

SECTION IV: BILL OF QUANTITIES		
SUMMARY OF BILL OF QUANTITIES		
1300	Contractor's Establishment On Site And General Obligations	60,000,000.00
1400	Housing, Offices And Laboratories For The Engineer's Site Personnel	6,000,000.00
1500	Accomodation Of Traffic	
1800	Dayworks Schedule	3,000,000.00
2100	Drains	
2200	Prefabricated Culverts	
2300	Concrete Kerbing, Concrete Channelling, Chutes And Downpipes, And Concrete Linings For Open Drains	
2500	Pitching, Stonework And Protection Against Erosion	
2600	Gabions	
3300	Mass Earthworks	
3400	Pavement Layers Of Gravel Material	
3600	Crushed Stone Base Or Subbase	
4100	Prime Coat	
4200	Asphalt Base And Surfacing	
5000	Ancillary Road Works	
5100	Marker And Kilometre Posts	
5200	Guardrails	
5400	Road Signs	
5500	Road Markings	
5700	Landscaping And Planting	
6100	Foundations For Structures	
6200	Formwork And Concrete Finish	
6300	Steel Reinforcement For Structures	
6400	Concrete For Structures	
7100	Testing Of Materials And Workmanship	10,000,000.00
8000	Speed Calming Measures	
9000	Supply, Installation And Commissioning Of Street Lighting System	-
TOTAL OF BILLS		79,000,000.00
15% CONTINGENCY		11,850,000.00
16.5% VAT		14,990,250.00
GRAND-TOTAL		105,840,250.00

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Note to Bidders: This Bid Security should be on the letterhead of the issuing Financial Institution and should be signed by a person with the proper authority to sign the Bid Security. It should be included by the Bidder in his bid, in accordance with ITB Clause 16.

4.3 Bid Securing Declaration

[The Bidder shall fill in this form in accordance with the instructions indicated.]

Date: [insert date (as day, month and year) of bid submission]

NCB No.: [insert number of bidding process]

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

To: [insert complete name of Procuring Entity]

We, the undersigned, declare that

1. We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.
2. We accept that we will automatically be suspended from being eligible for bidding in any contract with the Procuring Entity and/or any other government entity for a period of 24 months starting on the date as may be determined by the Government of Malawi if we are in breach of our obligation(s) under the bid conditions, because we:
 - (a) have withdrawn our bid during the period of bids validity specifies by us in the Bid Data Sheet;
or
 - (b) having been notified of the acceptance of our bid by the Procuring Entity 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 ITB
3. We understand that this Bid Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification of the name of the successful bidder; or (ii) thirty days after the expiration of the bid.
4. We understand that if we are a Joint Venture, the Bid Securing Declaration must be in the name of the Joint Venture that submits the bid. If the Joint Venture has not been legally constituted at the time of bidding, the Bid Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed: *[insert signature of person whose name and capacity are shown]*

In the capacity of *[insert legal capacity of person signing the Bid Securing Declaration]*

Name: *[insert complete name of person signing the Bid Securing Declaration]*

Duly authorized to sign the bid for and on behalf of *[insert complete name of Bidder]*

Date: on day of, *[insert date of signing]*

Witnessed By *[insert name of witness]* in capacity of *[insert designation of witness]*

Date: on day of, *[insert date of signing]*

[Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid.]

4.4 Qualification Information Form

1.0 Individual Bidders or Individual Members of Joint Ventures

1.1 Constitution or legal status of Bidder: **[attach copy]**

Place of registration: **[insert]**

Principal place of business: **[insert]**

Power of attorney of signatory of Bid: **[attach]**

1.2 Average annual volume of construction work performed in the previous number of years specified in Section 3, Evaluation and Qualification Criteria: **[insert details below and state average].**

Year:					
Volume:					

1.3 Work performed as prime Contractor on works of a similar nature and volume over the last five (5) years. Also list details of work under way or committed, including expected completion date. **The works performed shall be substantiated by completion certificates for completed works and for ongoing works, this shall be through the latest certified interim payment certificate. Failure to provide the information shall result in disqualification of the bid.**

Project name and country	Name of client and contact person	Type of work performed and year of completion	Value of contract
(a)			
(b)			

1.4 Major items of Equipment proposed for carrying out the Works. List all information requested below. For equipment listed under Section 3, 1 (c), **bidders shall provide copies of blue books as proof of ownership. Failure to provide the bluebooks shall result in disqualification of the bid.**

Item of equipment	Description, make, and age (years)	Condition (new, good, poor) and number available	Owned, leased (from whom?), or to be purchased (from whom?)
(a)			
(b)			

1.5 Qualifications and experience of key personnel for administration and execution of the Contract. Attach biographical data and notarised copies of certificates. **Failure to provide the biographical data and notarised copies of certificates shall result in disqualification of the bid**

Position	Name	Qualifications	Years of experience (general)	Years of experience in proposed position

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(a)				
(b)				

Proposed subcontracts and firms involved.

Sections of the Works	Value of subcontract	Subcontractor (name and address)	Experience in similar work
(a)			
(b)			

- 1.6** Financial reports for the last three (3) years: balance sheets, profit and loss statements, auditors' reports, etc. List below and attach copies.
- 1.7** Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of supporting documents.
- 1.8** Name, address, and telephone, telex, and facsimile numbers of banks that may provide references if contacted by the Procuring Entity.
- 1.9** Information on any current litigation in which the Bidder is involved.

Other party(ies)	Cause of dispute	Amount involved
(a)		
(b)		

- 1.10** Proposed Program (work method and schedule). Descriptions, drawings, and charts, as necessary, to comply with the requirements of the bidding documents.

2.0 Joint Ventures

- 2.1** The information listed in 1.1 - 1.10 above shall be provided for each partner of the joint venture.
- 2.2** The information in 1.11 above shall be provided for the joint venture.
- 2.3** Attach the power of attorney of the signatory or signatories of the Bid authorising signature of the Bid on behalf of the joint venture.
- 2.4** Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:
 - (a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
 - (b) one of the partners will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
 - (c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

3. **Code of Conduct for Contractor's Personnel (ES) Form**

CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We are the Contractor, [*enter name of Contractor*]. We have signed a contract with [*enter name of Employer*] for [*enter description of the Works*]. These Works will be carried out at [*enter the Site and other locations where the Works will be carried out*]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation, sexual abuse and sexual harassment.

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, labourers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel**" and are subject to this Code of Conduct.

This Code of Conduct identifies the behavior that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
 - a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
 - b. wearing required personal protective equipment;
 - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;

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5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in Sexual Harassment, which means unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Contractor's Personnel or the project's Grievance Redress Mechanism. .

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or
2. Call [] to reach the Contractor's hotline (*if any*) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

SN	Act of violation of CoC	Penalty
1.	Sexual Harassment, which means unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;	Disciplinary action would include the following according to the nature of act of violation: <ul style="list-style-type: none">• Suspension• Immediate dismissal• Report to Police
2.	Sexual Exploitation, which means any actual or attempted abuse of position of	Disciplinary action would include the following according to the nature of

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	vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;	act of violation: <ul style="list-style-type: none"> • Suspension • Immediate dismissal • Report to Police
3.	Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;	Disciplinary action would include the following <ul style="list-style-type: none"> • Immediate dismissal • Report to Police
4.	Any form of sexual activity with individuals under the age of 18, excepting case of pre-existing marriage	Disciplinary action would include the following: <ul style="list-style-type: none"> • Immediate dismissal • Report to Police
5.	Discriminate or harass other employee or physical assault (local or foreigner) or any other person concerned with the project on grounds of sex, tribe, religion, nationality, ethnicity, marital status, disability or employment status.	Disciplinary action would include the following according to the nature of act of violation: <ul style="list-style-type: none"> • Suspension • IMMEDIATE DISMISSAL
6.	Entertaining unauthorized visitations including minors on the worksite.	Disciplinary action would include the following: <ul style="list-style-type: none"> • Suspension • IMMEDIATE DISMISSAL
7.	Verbal conduct that leads to sexual harassment	Disciplinary action would include the following according to the nature of act of violation: <ul style="list-style-type: none"> • Written warning • Suspension • IMMEDIATE DISMISSAL
8.	Retaliation against any person who raises a concern	Disciplinary action would include: <ul style="list-style-type: none"> • Suspension • IMMEDIATE DISMISSAL

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person(s) with relevant experience*] requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

ATTACHMENT 1: Behaviors constituting Sexual Exploitation and Abuse (SEA) and behaviors constituting Sexual Harassment (SH)

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM

BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)

The following non-exhaustive list is intended to illustrate types of prohibited behaviors

(1) **Examples of sexual exploitation and abuse** include, but are not limited to:

- A Contractor's Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g. cooking and cleaning) in exchange for sex.
- A Contractor's Personnel that is connecting electricity input to households says that he can connect women headed households to the grid in exchange for sex.
- A Contractor's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Contractor's Personnel denies a person access to the Site unless he/she performs a sexual favor.
- A Contractor's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) **Examples of sexual harassment in a work context**

- Contractor's Personnel comment on the appearance of another Contractor's Personnel (either positive or negative) and sexual desirability.
- When a Contractor's Personnel complains about comments made by another Contractor's Personnel on his/her appearance, the other Contractor's Personnel comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of a Contractor's or Employer's Personnel by another Contractor's Personnel.
- A Contractor's Personnel tells another Contractor's Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.

4. Additional Requirements

Bidders should provide any additional information required in Sections 2 or 3 of the Bidding Document or to fulfil the requirements of Sub-Clause 4.1 and Clause 30 of the Instructions to Bidders, if applicable.

4.5 Contract Data

Note: Unless otherwise indicated, Clause numbers refer to the General Condition of the FIDIC Conditions of Contract for Construction First Edition 2017 and as amended by the Particular Conditions of Contract.

Note: With the exception of the items for which the Employer's Requirements have been inserted, the following information must be completed before the Bid is submitted.

ITEM	REFERENCE CLAUSES	STIPULATION
Period within which works on site must commence	1.1.7& 8.1	Within 14 calendar days after the Commencement Date
Period within which works Performance Bank Guarantee must be submitted	4.2.1	Within 28 calendar days after receiving the Letter of Acceptance by successful bidder
Time for Completion of the Works	1.1.84 & 8.2	18 calendar months including the Contractor's holidays, end of year shutdown period and non-working days.
Defects Notification Period	1.1.27 & 11.1	12 calendar months calculated from the date stated in the Taking-Over Certificate.
Electronic transmission systems	1.3	Communications shall be in writing and may be delivered by hand, registered mail or transmitted by email or facsimile signed and on a letter head as an advance copy.
Governing Law	1.4	The Laws of the Republic of Malawi

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ITEM	REFERENCE CLAUSES	STIPULATION
Ruling Language	1.4	English
Language for Communications	1.4	English
Time for access to the Site	2.1	Not later than the Commencement Date
Amount of Performance Security	4.2	The performance security shall be in the form of a "Performance Security" in the amount(s) of 10 percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount for the duration of the construction period and defects notification period.
Working Hours	6.5	Monday to Saturday 7:30am – 17:00 hours with exception of Gazetted Public Holidays at a maximum of 45 hours in a week.
Period within which works Programme must be submitted	8.3	Within 28 calendar days after the Commencement Date
Delay Damages for the Works	8.8 & 14.15(c)	0.05% of the Contract Price per calendar day or part thereof
Maximum amount of delay damages	8.8	Five percent (5%) of the Accepted Contract Amount
Percentage for adjustment of Provisional Sums	13.4(b)(ii)	5% or rates tendered under Section 1800 Day works Schedule, whichever is the lowest.
Adjustments for Changes in Cost: Adjustment Data	13.7	Not applicable.
Total Advance Payment	14.2	The total advance payment shall be 10% Percentage of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable, subject to acceptance of an Advance Payment Guarantee.
Percentage of Retention	14.3(iii)	10% for each Payment Certificate. A guarantee in lieu of retention money will not be accepted.
Limit of retention money (Maximum)	14.3(iii)	5% of the Accepted Contract Amount.

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ITEM	REFERENCE CLAUSES	STIPULATION
Plant and Materials for payment when shipped *en-route to the site	14.5(b)	Not applicable.
Minimum Amount of Interim Payment Certificates	14.6	5% of the contract sum (excluding VAT)
Currencies of Payment	14.15	Payments will be made in Malawi Kwacha.
Periods for submission of Insurance:		
Maximum amount of deductibles for Insurance of Employer's risks	19.2.4	MWK 5,000,000 per occurrence
Minimum amount of third party Insurance	19.2.4	MWK 150,000,000
Date by which the DAAB shall be appointed	21.1	28 days after the declaration of a dispute by either party.
The DAAB shall be comprised of:	21.1	One Person
Appointment (if not agreed) to be made by:	21.1	The president of the Malawi Engineering Institution.

4.6 SCHEDULE OF MALAWIAN LOCAL CONTRACTORS

With reference to Clause 4.4 of the General Conditions of Contract, the Bidder shall list below the subcontractors he intends to appoint for the various items of work on this contract - alternatives may be mentioned.

It is an explicit requirement of the Contract that ten percent (10%) of the total value of the works, excluding escalation, contingencies, provisional sums and VAT, be subcontracted to Malawian Local Contractors

The acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any or all of the subcontractors not be approved subsequent to acceptance of the tender, this shall in no way invalidate this tender, and the tendered unit rates

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for the various items of work shall remain final and binding even in the event of a subcontractor not being approved by the Engineer.

Activity	Name Of Subcontractor	Estimated Value Of Work (Mwk)

AUTHORISED SIGNATORY OF THE BIDDER: _____

NAME OF AUTHORISED SIGNATORY: _____

NAME OF THE BIDDER: _____

Section 5. Eligible Countries

All countries are eligible except countries subject to the following provisions.

A country shall not be eligible if:

- (a) as a matter of law or official regulation, the Government of the Republic of Malawi prohibits commercial relations with that country, provided that the Government is satisfied that such exclusion does not preclude effective competition for the provision of the works required; 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, the Government of the Republic of Malawi prohibits any procurement of works from that country or any payments to persons or entities in that country.

Section 6A: Scope of Works

Section 6: Employer's Requirements

Contents

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1.0 Scope of Works

1.1 Description of the Works

a) General

The Chitipa – Ilomba – Tanzania Border Road is an earth road which lies in the northern part of Malawi and is approximately 31 km long. The road is the shortest route to the neighbouring Tanzanian town of Isongole in Irenje District. The road connects with the upgraded section of M009 at Chitipa Boma and traverses through the low lying areas towards the northern western tip of Malawi and leaves the M009, into T301 and D002 to connect with the Tanzanian Border at Songwe River.

The Project will involve the upgrading of the existing earth road to bitumen standard with a 6.8m carriageway and 1.5m shoulder on each side and the construction of several drainage structures.

The road has been divided into three (3) Lots for implementation purposes with Lot 1 starting from Chitipa (km 0+000) to km 10+000, Lot 2 from Km10+000 to Km 20+000 and Lot 3 from Km 20+000 to Km 31+000 Songwe border at Ilomba.

b) Pavement

The pavement layers shall constitute construction of selected fill layers, gravel sub base courses, crushed stone base and 50mm Asphaltic Concrete surfacing.

c) Structures

- Pipe Culverts

The works shall involve installation of 900mm diameter precast concrete pipes on Class B bedding.

- Box Culverts

The works shall involve construction of fifteen (15) box culverts of various sizes, seven (7) box culverts under Lot 1, five (5) box culverts under Lot 2, three (3) box culverts under Lot 3

- Bridges

The project will involve construction of new single 14m span bridge across Kaghoma River at km 24+800 under Lot 3. The bridge shall have 6.8m carriageway with 1.5m shoulder on each side.

d) Appurtenant Works

- General

The road will include among others, the following appurtenant works; construction of, Construction of bus bays, lined drains, kerbing works, road studs, shaping of road slopes and street lighting.

- Road Signage

All temporally road signs used during construction shall conform to requirements of SABS 1519 and shall be in Retro-reflective material.

Road sign details have been provided in the book of drawings. Unless advised otherwise by the Engineer, the upgrading works shall install all signs as indicated in the Book of Drawings. Section 5400 of the Technical Specifications applies.

- Road Markings

Road marking details are provided in the book of drawings. Retro-reflective paint complying with the requirements of SABS 731-1 for type 1 paint shall be used.

Road marking will typically involve the white centreline, yellow lane demarcation lines, stop marking, pedestrian markings among others.

1.2 Drawings

A book of drawings shall be provided comprising layout of plans, long sections, cross sections, typical sections, drainage structures, road sign schedule, standard drawings, List of Control Points and the Setting out data.

1.3 Site Facilities

(a) Site facilities available

The Contractor will be responsible for the provision of a suitable site for his construction camp and to provide accommodation for his personnel.

The Contractor shall make his own arrangements for the supply of potable water and water for construction purposes, and for electrical power and all other services as well as all safety and security measures necessary for the duration of the contract. In his Bid he must make provision for all negotiations and procurement of these services, which will be deemed to have been included in his tendered rates.

(b) Site facilities required

The following facilities shall be required on the campsite:

- i. Contractor's offices
- ii. Engineer's laboratory
- iii. Storage facility for building materials and equipment
- iv. workshop for servicing vehicles and road construction machinery
- v. Parking areas
- vi. Portable water
- vii. Sanitation and Refusal disposal facilities
- viii. Generators to compliment power supply

1.4 Security and Social Issues

The Contractor will be responsible for the security of his personnel and construction plant on and around the Site of the Works and for the security of his camp, and no claims in this regard will be considered by the Employer. Special attention shall be given to vulnerable groups such as women, girls and disabled workers. No underage persons shall be employed

1.5 Climate

The project site is within Chitipa district and the climatic conditions for this project area as shown in the table below;

Climatic Conditions

	Chitipa
Mean Rainfall	800 – 1200mm
Mean Temperature	17 – 27 °C

1.6 Features Requiring Special Attention

a) Roads and Site to be Kept Clean

The Contractor shall make sure that roads and campsite are always kept clean. The Contractor shall provide dustbins designated for different waste types such as for biodegradable and non-biodegradable, and harmful and non-harmful. Oils from workshop and other waste from road construction shall only be disposed of in approved areas.

b) Working Hours

The Contractor shall come up with working schedule for all employees. Working hours for all employees shall be properly spelt out. However, the working hours should be in accordance with the Malawi Government labour laws.

1.7 Construction Period

The estimated time for the upgrading of each Lot is eighteen (18) calendar months.

1.8 Extension of Time Resulting from Abnormal Rainfall

It must be noted that the extension of time resulting from abnormal rainfall shall not be regarded as an event for which compensation can be claimed. This means that no payments whatsoever will be made, including any payments under time related obligations, regardless of the period of time by which the Time for Completion may be extended due to abnormal rainfall.

SECTION 6B: TECHNICAL SPECIFICATIONS

6 B. TECHNICAL SPECIFICATIONS

The Technical Specifications to be used for this Contract contain two Parts as follows:

PART A: STANDARD SPECIFICATIONS

The Standard Specifications for this contract shall be the Southern African Transport Co-ordination Committee (SATCC) Draft Standard Specifications for Road and Bridge Works, September 1998, reprinted July 2001.

This Document, which forms Part of the Tender and Contract documentation, is printed by the SATCC in Maputo in Mozambique and all Tenderers should acquire their own copy of this standard document at their own cost.

PART B: PARTICULAR SPECIFICATIONS

THE PARTICULAR SPECIFICATIONS FORM AN INTEGRAL PART OF THE TENDER AND CONTRACT DOCUMENTATION AND SUPPLEMENT THE STANDARD SPECIFICATIONS.

In the event of any discrepancy with a part or parts of the Standard Specifications, the Bill of Quantities or the Drawings, the Particular Specifications shall take precedence. The Particular Specifications are contained in the pages that follow.

All references to Project Specifications in the Standard Specifications shall mean Particular Specifications for this contract. The terms "Project Specifications" and "Particular Specifications" shall be interpreted to have the exact same meaning.

All works shall be measured as described in the Bill of Quantities.

The Particular Specifications, shall supplement and modify, delete and/or add to the Standard Specifications, as stated. Where any Clause, paragraph or sub-paragraph in the Standard Specifications is supplemented by one of the following paragraphs from the Particular Specifications, the provisions of such Clause, paragraph or sub-paragraph shall remain in effect and the supplemental provisions shall be considered as added thereto, deleted, or superseded by any of the following paragraphs in the Particular Specification, the provisions of such Clause, paragraph, or sub-paragraph in the Standard Specification, not so amended, deleted or superseded shall remain in effect.

Clauses and pay items modified by the Particular Specifications are numbered "PS" followed by a number corresponding to the number of the relevant clause or pay item in the Standard Specifications. New clauses and pay items not covered in the Standard Specifications are also designated "PS" followed by a number. These numbers follow on from the last clause or payment item number used in the relevant section of the Standard Specifications.

PART B: PARTICULAR SPECIFICATIONS

SERIES 1000:GENERAL

Section 1100:Definitions and Terms

Change Clause 1126 as follows:

PS 1126 Road Prism

The areas indicated in Figures 1 and 2 in the SATCC Draft Standard Specifications for Road and Bridge Works issued by the SATCC in September 1998 (reprinted July 2001).

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

PS1204: PROGRAMME OF WORK

Replace the first paragraph with the following

(a) APPROVED PROGRAMME

The contractor shall submit his programme of work, within the time stated in the Particular Conditions of Contract, to the Engineer for approval. The Contractor shall ensure that he has at his disposal adequate staff with the necessary expertise to develop and maintain the network programme for the duration of the contract and to provide the information required by the Engineer as specified hereafter.

The programme shall be in a bar chart (Gantt chart) or any other time-activity format acceptable to the Engineer and shall clearly show:

- (1) The proposed rate of progress in order to complete the works within the required period as tendered, showing the various activities, their duration and proposed resources (major plant and labour) for each element of the works. Sufficient details shall be provided to enable the Engineer to be able to assess construction progress. All activities, including establishment on site, trimming and finishing and the completion of all minor ancillary works are to be included in the programme.
- (2) The sequence of activities and any dependencies (time or resource related) between them; the critical path activities; the amount of slack time for non-critical activities;
- (3) Key dates in respect of work to be carried out, or information, etc., to be provided, by others.
- (4) The anticipated value of work to be done during each month and any
- (5) Other information specifically required by the Engineer.

When drawing up his programme, the Contractor shall, take into consideration:

- (1) Testing and approval process of materials and works
- (2) Expected weather conditions and their effects.
- (3) Known physical conditions or artificial obstructions.
- (4) The accommodation and safeguarding of public traffic.
- (5) Dealing with, altering and installing services.
- (6) Expropriation and all other actions required in terms of this contract.

The following details shall be submitted together with the programme:

- (1) The number of working hours per day, working days per week, assumed holiday or shut-down periods on which the programme is based.
- (2) The overall labour and major plant resources on which the programme is based.
- (3) The detailed traffic accommodation proposals on which the programme is based (road or lane closures, lengths of sections to be worked, timing etc).
- (4) The rate of production for major works components such as layer works, subbase, base, surfacing, etc (units per day / hour) on which the programmed time for carrying out the work is based.

The Contractor shall base his initial programme of work on the scope of the work as described in the Particular Specifications. This programme shall be reviewed on a regular basis by the Contractor in accordance with changing circumstances, delays and amendments to the work ordered by the Engineer as a result of further examinations made by him.

Minor revisions to the approved programme may be introduced from time to time by mutual agreement between the Contractor and the Engineer. Should the Engineer believe that a major revision of the programme is required, the Contractor will be notified in writing and a revised programme shall be submitted within two weeks of receipt of such notification.

It should be noted that it is in the Contractor's interest to provide a comprehensive programme giving as much information as possible about the times allowed for the various activities as well as resource or other limitations affecting the programme, since the approved programme may be used to evaluate any claims in terms of the General Conditions of Contract for extensions of time.

(b) REPORTING

The Contractor shall submit to the Engineer, at least three working days before each monthly site meeting copies of the following:

- (i) The construction programme with progress charts and programme graphs updated to reflect the actual progress to date.
- (ii) A summary of progress on site over the month preceding the site meeting. The report shall be in the form of a detailed narrative to the construction programme.
- (iii) Details of activities running late, indicating what steps have been or will be taken to ensure that the work is completed within the specified time.
- (iv) A report on all labour, plant and materials on site, according to sub-clauses PCC 4.20 and PCC 6.10 of the Particular Conditions.

PS 1205 Workmanship and Quality Control

Add the following paragraphs:

(a) Inspections

The Engineer will inspect the works during the course of construction. The Contractor shall accord the Engineer every facility he may require for such inspection.

Any inspection, examination or test either of workmanship, material or performance shall not exempt the Contractor from any of his obligations under the contract. The liability of the Contractor for defective material or workmanship that may be discovered after any portion or portions of the work have been put into service shall be in accordance with the General Conditions of Contract notwithstanding that the defective item(s) may have previously been inspected and approved by the Engineer.

(b) Workmanship

(i) Testing of Materials

The Contractor shall carry out tests on materials and workmanship in order to

ensure compliance with the requirements of the Specifications. The frequency of testing shall be in accordance with the requirements of the Standard and/or Technical Specifications, but the Contractor may increase the specified frequency in order to have more control of the quality of the Works.

All tests shall be conducted in accordance with the latest published methods listed below.

1. British Standards Institution (BSI)
2. American Society for Testing and Materials (Abbreviation: ASTM)
3. American Association of State Highways and Transportation Officials (AASHTO)
4. Technical Methods For Highways (TMH): Standard Methods of Testing Road Construction Materials, TMH1 2nd Edition, published by the South African Department of Transport, 1986.
5. South African Bureau of Standard Specifications, (SABS)
6. MS-2 Asphalt Mix Design Methods (Asphalt Institute)

In addition to the above, standard specifications or test methods of other bodies may be referred to in these specifications, or test methods may be described where no acceptable standard methods exist.

The Contractor shall submit all test results to the Engineer on a weekly basis. Work for which process control test results have not been submitted to the Engineer will not be approved.

(ii) Contractor's Laboratory

The Contractor shall establish on site and maintain in good order a laboratory with approved equipment sufficient to enable him to carry out process control testing required to ensure conformity with the Specifications. As a minimum, the laboratory shall be equipped with equipment and facilities as specified for the Engineer's Laboratory.

The laboratory equipment to be used shall be tested and calibrated by the supplier or by his Agent before their use for process control testing. The calibration shall be done at the beginning of the Contract and shall be repeated every six months or at such other interval as the Engineer may decide. Proof of calibration in the form of certificates shall be submitted to the Engineer not later than seven days after calibration, failing which the Engineer shall declare the equipment unsuitable for use on the project. Results of any tests carried out prior to the testing and calibration of the equipment will be rejected.

Results of compaction densities obtained by nuclear density testing equipment shall be compared to results obtained by the sand replacement method at the rate of one sand replacement test per fifteen nuclear density tests.

The Contractor shall employ a qualified Materials Engineer with at least eight (8) years' experience to supervise the Contractor's Laboratory and quality control tests. Prior to deploying the Materials Engineer to the site, the

Contractor shall submit to the Engineer his academic details and Curricula Vitae. The Engineer reserves the right to reject the proposed personnel if in his opinion he is not qualified or sufficiently experienced to supervise or carry out quality tests.

The Contractor shall maintain record of test results in files clearly numbered in a logical sequence. The Engineer shall have access to the records at all times.

(iii) Laboratory for the Consulting Engineer

The Contractor shall establish on site and equip a laboratory for use by the Engineer. The laboratory building shall be constructed in accordance with the drawings and specifications issued by the Engineer as part of the Contract drawings. Alternatively the Contractor can identify rented laboratory building to the satisfaction of the Engineer.

The Contractor shall supply, install and insure the laboratory equipment required by the Engineer for carrying out quality assurance tests. The laboratory shall be equipped with all equipment, chemicals, supplies, etc. necessary for the performance of the following tests and procedures as described in:

BS 1377:1975 “Methods of Testing Soils for Civil Engineering Purposes”.

Method

- 1.5 Preparation of disturbed samples for testing
- 2.1 Test 1: Determination of the moisture content
 - 1 (A): Standard method (oven-drying method)
 - 1 (B): Subsidiary method (sand bath method)
- 2.2 Test 2 Determination of the liquid limit
 - 2 (A) Method using cone Penetrometer
 - 2 (B) Method using the Casagrande apparatus
- 2.3 Test 3 Determination of the plastic limit
- 2.4 Test 4 Determination of the plasticity index
- 2.6 Test 6 Determination of the specific gravity of soil particles
 - 6 (A) Method for fine, medium-and coarse-grained soils
 - 6 (B) Method for fine-grained soils
- 2.7 Test 7 Determination of the particle size distribution
 - 7 (A) Standard method by wet sieving
- 4.2 Test13 Determination of the dry density moisture contents relation - 4.5kg Rammer method
- 4.4 Test 15 Determination of the dry density of soil on the site
 - 15 (A) Sand replacement method suitable for fine, medium and coarse-grained soils: small pouring cylinder method (minimum of 3 sets)
 - 15 (B) Sand replacement methods suitable for fine- medium, and coarse-grained soils: large pouring cylinder method (minimum of 2 sets)
- 5.1 Test 16 Determination of the California Bearing Ratio (CBR)

Notes:

- (1) Two soaking tanks 1500mm x 1000mm x 600mm deep to be provided, together with apparatuses for measuring swell (minimum 10No).
- (2) At least 25 moulds and 75 x 2 kg surcharge weights to be provided.

BS 812: 1975 “Methods for Sampling and Testing of Minerals Aggregates Sand and Fillers”.

Part 1: Sampling size, shape and classification, Sections 5 to 7 inclusive

Part 2: Physical Properties, Section 5 to 7 inclusive

Part 3: Mechanical Properties, Section 7 and 8

BS 1881: 1970 “Methods of testing Concrete”

Part 2: Slump test, Compacting factor test

Part 3: Making and curing test cubes

Note:

At least 30 moulds shall be supplied and the curing tank shall not be used for any other purpose.

Part 4: Test compressive strength of test cubes

Note:

The gap between the platens of the compressive testing machine must be capable opening to at least 200mm.

U.K. Transport and Road Research Laboratory publication - Road Note 39

“Road Note 39 – Recommendations for Road Surface Dressing”
Road Tray (Appendix1)

BS 1707: 1970 “Hot Binder Distributors for Road surface Dressing”

Depot Tray Test

Standard Methods for Testing Penetration and its Products” 1959 (Institute Petroleum)

IP 49/72 Penetration Test for Bitumen

ASTM Designation: C88-78 Standard Method of Testing for Soundness of Aggregates by use of Sodium Sulphate or Magnesium”

AASHTO Designation: T176-65 Standard Method of Test for Plastic Fines in Graded Aggregates in Soils by Use of the Sand Equivalent Test”

The equipment will be as scheduled in these Particular Specifications. All equipment furnished for use by the Engineer must be calibrated as stated above. The Contractor shall maintain throughout the contract period both the laboratory building and the laboratory equipment and shall replace any damaged equipment within seven days of receiving the Engineer’s instruction to do so.

The laboratory equipment and furniture will revert to the Employer at the end of the contract.

Payment for the provision of laboratory building and equipment shall be as tendered by the Contractor. The tendered rate shall include full compensation for procuring, furnishing, insuring, calibrating and maintaining in good order all the facilities and equipment.

(c) Cost of Testing

(i) Testing by Contractor and Provision of Samples

The cost of testing of materials and workmanship undertaken by the Contractor to ensure compliance with the Specification, including the submission of certificates that materials supplied by him comply with the relevant BS or other Specifications, shall be deemed to be covered by the prices tendered under the relevant items in the Bills of Quantities for work in which the materials are incorporated. The same applies to samples that the Contractor must supply to the Engineer for testing.

(ii) Additional Testing

The Engineer shall have the right to take samples and/or order any additional tests on workmanship or materials supplied by the Contractor. Where such additional testing is required, the cost thereof to the Contractor shall be determined. If the costs of individual tests are not itemised in the Bills of Quantities the cost of additional testing shall be classified as additional work under Clauses 7.4 and 13 of the General Conditions of Contract, provided that the test indicate compliance with the Specification otherwise the cost shall be borne by the Contractor.

PS1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Add the following at the beginning of this clause:

“Upon issuance of the order to commence, the Engineer shall issue to the Contractor a set of setting out co-ordinates and the Contractor shall set out the works accurately and shall be responsible for any error(s) which may occur in such setting out and shall amend and rectify such error(s) at his own expense.

In addition to setting out data, the Engineer shall issue to the Contractor co-ordinates of Benchmarks and control points for survey control. The Contractor shall, prior to using the benchmarks and control points, check their accuracy and confirm in writing to the Engineer that the information is sufficient for setting out the works accurately. Should discrepancies be found in the information issued by the Engineer, the Contractor shall afford the Engineer the opportunity to investigate the discrepancies and correct them within a period of seven calendar days. The Contractor shall programme his work in such a way that this requirement will not impact negatively on the rate of progress of the works, and no claim for extension of time will be entered pursuant to this requirement.

The Contractor may if he deems it necessary, establish additional control points. Any additional control points shall consist of steel pegs set in concrete at positions not likely to be affected by the works. The coordinates of the established points shall be issued to the Engineer in the form ‘Name, Y, X, Z’”

Replace the second sentence in the second paragraph with:

“In case that the reference beacons along the contract sections have been either destroyed, displaced or damaged before the handing over of the site to the contractor, then the Engineer will arrange to have new reference benchmarks reinstated by the Contractor at 500 m intervals and the cost of the re-establishment work will be paid under Section 1800 (Day Works) of the Particular Specifications”.

PS1207: NOTICES, SIGNS AND ADVERTISEMENTS

Add the following to the second paragraph:

“See Volume 2 Drawing No. CP-ILOM-TZ/TSH/601 of this document for details of the Notice Boards. These boards shall remain in position until the end of the maintenance period, and shall then be removed without delay.

PS 1208: MEASUREMENTS

Add the following clause to 1208 (c):

“Cross-sectional levels shall be taken at not greater than 20-metre intervals jointly from the Surveyor of the Engineer and of the Contractor and agreed between the Contractor and the Engineer before any clearing, grubbing, stripping of topsoil or earthworks are undertaken and at any stage thereafter that the Engineer may require.

Cross sections shall be taken at the same interval as the setting out. The cross sections shall cover the entire road reserve and shall contain a minimum of seven points consisting of centre point and three equally spaced points on either side of the centre point. The points shall be in line and perpendicular to the centre line. The results of the survey shall be certified by the Engineer as soon as possible”

PS1209 PAYMENT

(c) Rates to be inclusive

Replace “period of maintenance” in the last line of the first paragraph with “Defects Notification Period”

(c) The meanings of certain phrases in payment clauses

(i) Procuring and furnishing (materials)

Insert “duties” in the sixth line of sub-clause after “all tax”

PS 1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Replace the words “Certificate of Practical Completion of the Works” in title and text of this clause by the words “Taking-over Certificate”

Amend the sub-clauses of this clause as follows:

In (b) add "and all storm water drainage works;"

Add the following to this clause:

“Opening of a section of road to public traffic **before** the requirements of Clause 1210 have been met, if such opening should be allowed by the Engineer, shall not entitle the Contractor to the issue of a Taking-over Certificate for the road section in question.”

PS 1214: Contractor’s Activities in Respect of Property Outside the Road Reserve and of Services Moved, Damaged or Altered

Add the following clause 1214 (f):

“Any of the Contractor’s activities outside the Site or outside the road reserve on property not belonging to the Employer shall be exclusively at the Contractor’s own risk, cost and responsibility.”

PS1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Method (ii) (Critical – path method) will be used for determining the extension of time due to inclement weather.

Add the following table B1215/1 at the end of section on Method (ii) (Critical Path)

Abnormal rain as shown in table B1215/1 shall be proven by rainfall records for previous five years (prior to contract start date) from Meteorological Department. For the purposes of calculating an extension of time due to climatic conditions the number of days in excess of the number of working days anticipated to be lost due to climatic conditions as shown in Table B1215/1 shall be taken into account:

Table B1215/1: Anticipation days (“n” working days) lost due to climatic conditions:

Month	Rain days
January	19
February	19
March	16
April	9
May	0
June	0
July	0
August	0
September	0
October	0
November	2
December	5
Total	70

The Engineer will certify a day lost due to climatic conditions only if:

- (a) no work on the critical path according to the latest approved programme for

completion of the works could be carried out during that specific working day or if

- (b) only 30% or less of the work force and plant planned for that specific day, could work.

The extension of time as a result of climatic conditions will be calculated monthly as being equal to the number of days certified by the Engineer as lost due to climatic conditions, less the number of days in Table B1215/1. The total extension of time for the contract will be the sum of the monthly extensions. If the total extension of time for the Contract is negative it will be disregarded when determining the completion date(s)."

Add the following new clauses:

PS 1230: LAND AVAILABLE

The land available to the Contractor free of charge shall be as follows:

- i. The land occupied by the Permanent Works
- ii. The land occupied by approved (usually existing and public) temporary diversion routes

Land to be identified and acquired by the contractor

The contractor shall provide and maintain such buildings and sheds as maybe required for the use of the workmen employed in the works and for the storage of materials requiring protection and shall remove the same from the site on completion of the works and make good everything disturbed. The contractor shall be responsible for identifying a suitable site for location of the temporary facilities that he may require and he shall obtain approval of usage of any piece of land from the relevant local authority

The contractor shall make all negotiations and pay all necessary compensation fees for any land he may require, including borrow areas for fill material outside the road reserve (if approved by the Engineer).

The land available to the contractor is not necessarily the land to be cleared, which shall be indicated by the Engineer. The costs of clearing for the purpose of borrowing material, opening access roads, working space, or any other purpose of work not forming part of the permanent works shall be borne by the contractor.

PS 1231: COMPENSATION

The costs of agreed compensation for disturbance of buildings, crops, trees and relocation of fences and services within the land available free of charge shall be paid by the Contractor through the Contract and he shall be reimbursed net under the relevant items in the Bill of Quantities.

The cost of all other compensation shall be borne by the Contractor.

The Contractor shall cooperate with the appropriate authorities and shall make all necessary arrangements to agree compensation. Construction of the Works shall not commence until compensation has been agreed.

PS 1232: GRAVES AND TOMBS

Areas which contain graves and/or tombs within the Site shall be cleared by the Contractor, who shall seek assistance from the District Commissioner to obtain the consent of the Village Authorities to enter into each of such areas for the removal and reburial of corpses and remains. Compensation to the Village Authorities, if any, shall be reimbursed to the Contractor through the Contract under the relevant item in the Bill of Quantities.

PS 1233: COPIES OF SUPPLY ORDERS

The Contractor shall provide the Engineer with copies of all orders for the supply of materials and goods required in connection with the Works.

PS 1234: DRAWINGS

The Contractor shall be issued with two copies of each of the Drawings forming part of the Contract documents, as well as with two copies of any further drawings which may be issued by the Engineer from time to time. Any additional copies of drawings required by the Contractor may be purchased from the Engineer.”

PS 1235: AMENITY AND ACCESS

The Contractor shall ensure that, in carrying out the Works, he causes no damage by plant, workmen, flooding, dust, subsidence or otherwise to property. He shall take all precautions to the satisfaction of the Engineer to ensure that such hazards are avoided and public amenity maintained. The Contractor shall make good, forthwith and at his own cost, any damages and inconveniences caused by him; failing to do which the matter shall be treated under Sub-Clause 4.18 of the General Conditions of Contract, as amended, and the Employer shall be entitled to employ and pay other persons to carry out the same, and all costs shall be recoverable from the Contractor by the Employer in accordance with such sub-clause.

PS 1236: DUST CONTROL

The Contractor shall take appropriate measures to protect the Works and adjacent private and public property from dust contamination and nuisance.”

PS1237 REPORTING OF INCIDENTS AND ACCIDENTS

“The Contractor shall report every incident and accident which occurs on the road, within the extent of the Works, to the Engineer within twenty-four (24) hours of such incident /accident, irrespective of whether such incident/accident has a bearing on the damage to the works or to persons, property or things. The report must be in writing and must contain full particulars of the incident/accident. Photographs of each incident/accident shall also be included in the report. The Engineer has the right to conduct any or all enquiries, on either the Site or elsewhere, as to the causes and consequences of any such incident/accident. The Contractor shall also keep a comprehensive record of all incidents/accidents which occur on the road and shall make such records available to the Engineer on demand.”

PS 1238 MAXIMISING THE USE OF LABOUR

This Contract has been established and shall be priced as equipment-based type of road works project. However, the Roads Authority is desirous of making a contribution towards reducing the level of unemployment in the project area. To this end, the following items of work have been identified as suitable for maximising the use of manual labour.

- (a) Bush clearing and the removal of roots from the surface after grubbing has been done by machine, and loading of such roots for transport to disposal areas.
- (b) Excavation and backfilling for culverts, kerbs and channels, including for removal of existing units, all to a maximum depth of 1,5m.
- (c) Excavations for guardrail posts, road sign footings, guide blocks and erosion protection works, all to a maximum depth of 1,5m.
- (d) Constructing gabion baskets and stone pitching.
- (e) Placing of kerbs and concrete edging.
- (f) Erection of road signs.
- (g) Base correction.
- (h) Back chipping during surfacing operations.
- (i) Trimming of cut slopes, and final trimming of shoulder breakpoints and fill slopes.
- (j) Trimming of open drains, side drains, inlet and outlet channels of culverts.
- (k) Trimming of catch - water drains, mitre banks and mitre drains.
- (l) Finishing off the road, road reserve and borrow pits.

Tenderers are required to submit a tender for the Works under the condition that at least the items listed above must be done using manual labour. Additional information and suggestions which will further the use of labour will be viewed in a positive light.

The Employer is also desirous of making a contribution towards equal opportunities for women, not only in respect of labour, but also throughout the human resource base of the Contract. No gender restrictions shall apply throughout the workforce. In respect of the latter and as far as is practicable, the Contractor is required to employ at least 15% of his unskilled labour force from the feminine gender. In addition, only Malawian citizens shall be employed in the Contractor's unskilled labour force.

PS1239 ENVIRONMENTAL AND SOCIAL IMPACT CONTROL

Before any work is commenced on the Site, the Contractor's site management staff including foremen shall attend an environmental and social awareness-training course presented by the Engineer. The Contractor shall liaise with the Engineer prior to the Commencement Date to fix a date and venue for the course. The Engineer will provide the course content. The Contractor shall provide a suitable venue and ensure that the specified employees attend the course.

The environmental/social awareness-training course shall be held in the morning during normal working hours. The information presented at the course shall be communicated to the Contractor's employees on the site, to any new employees coming onto site after the initial training course and to his suppliers as required by the Project Specification. The Contractor shall ensure that all attendees sign an attendance register, and shall provide the Engineer with a copy of the attendance register the day after each course.

In addition to aspects of design which are intended to avoid or reduce environmental impact, and also in addition to normal good construction practice expected to the Contractor, the requirements of the Project Environmental Management Plan (see under Section 6 D Clause A: Environmental and Social Impact Management) shall be strictly followed. Any non-compliance with these requirements which could have been avoided in the opinion of the Engineer may be considered sufficient grounds for withholding payment of part or all of the

amounts to be paid for the pay item PS13.05.

PS 1240 HIV/ AIDS PREVENTION PROGRAMME

The contractor shall from the commencement of the contract through his Environmental, Occupational Health and Safety Expert (EOHSE) implement a generic AIDS awareness training programme for all permanent and temporary workers of the main contractor and all subcontractors. The type of training; the number of trainees and the cost of all training shall be as agreed by the Employer and the Engineer.

The training material for the structured training programme shall, as far as possible, be accredited by the Ministry of Health and be delivered by suitably qualified and accredited trainers. The training programme shall be subject to the approval of the Employer and the Engineer, and the Contractor shall if so instructed by the Engineer, alter or amend the programme and course content.

The Contractor shall be responsible for the provision of everything necessary for the delivery of the training programme, including the following:

- Transport of the selected workers (as necessary)
- Stationery and all other necessary materials.

No separate payment will be made for the training venue and everything necessary for the delivery of the training.

All Training shall take place during normal working hours and the Contractor shall make adequate allowance in his programme of work to accommodate the training to be provided. All selected workers shall be remunerated in respect of all time spent undergoing skills training. The EOHSE must make sure that the specified workers attend the HIV/AIDS Prevention training courses.

The Contractor shall keep comprehensive records of the training given to each worker and whenever required shall provide copies of such records to the Engineer. At the successful completion of a course, each candidate shall be issued at the Contractor's own cost with a certificate.

The Contractor shall ensure that all attendees sign an attendance register, and shall provide the Engineer with a copy of the attendance register the day after each course. The EOHSE shall prepare a quarterly report on the programme.

SECTION 1300 CONTRACTOR’S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

PS 1303: Payment

PS 13.01: The Contractor’s General Obligations

Add the following paragraph after the fourth paragraph (numbered as (iii):

(iv) The combined total amount of pay item 13.01(a), 13.01(b) and 13.01(c) shall not exceed 15% of the tender sum

Add the following new pay items:

PS 13.02: Authorised Compensation	Unit
(a) Provisional Sum for Authorised Compensation.....	Provisional Sum
(b) Handling Cost and profit in respect of item PS 13.02(a)	%

The contractor has to enter the percentage in the rate column and then calculate the amount for pay item PS13.02 (b)

PS13.03: Relocation of Services:

(a) Provisional sum allowed for the protection and relocation of services	Provisional sum
(b) Handling Cost and profit in respect of item PS13.03 (a)	%

The contractor has to enter the percentage in the rate column and then calculate the amount for pay item PS13.03 (b)

The provisional sum allowed under sub item (a) shall be expended to cover the actual costs for the protection and moving of services by the Contractor and others.

The provisional sums shall be expended only with the approval of the Engineer.

PS 13.04: Construction of Sign Boards No.

The unit of measurement shall be number of construction sign boards supplied.

The tendered rate shall include full compensation for procurement, erection and removal of construction sign boards after completion of the project.

The sign board has to comply with the particular drawing.

PS 13.05: Contractor’s Environmental and Social Obligations

(a)	Allow for the undertaking and implementation of all the requirements of the Environmental and Social Management Plan	Lump Sum	1.00
(b)	Provide assistance and environmental training to staff	Prov. Sum	1.00
(c)	Handling costs, profit and overheads in respect of item 13.05 (b)	%	
(d)	Provide Road Safety training to staff and the surrounding community	Prov. Sum	1.00
(e)	Handling costs, profit and overheads in respect of Item 13.05 (d)	%	

The provisional sum for sub-item PS13.05 (a), allows for the undertaking and implementation of all the requirements of the Environmental and Social Management Plan as specified in the document. This money shall only be expended on the direct instruction of the Engineer. The reimbursement shall be for the final invoice amount from the training institution/s (excluding VAT) for the training.

The provisional sum allowed for pay item PS13.05 (b) is to remunerate the trainees attending the environmental training at a rate per hour for attending training. The reimbursement shall be for actual attendance (total hours).

The percentage tendered for pay item PS13.05 (c) shall be applied to the amounts expended under pay items PS13.05 (b) to generate an amount that covers all the monies required by the Contractor for managing the training, paying the trainees, and any other costs that may arise from these payments, including any Contractor's profits and overheads.

The provisional sum allowed for pay item PS13.05 (d) is to remunerate the trainees attending the Road Safety training at a rate per hour for attending training. The reimbursement shall be for actual attendance (total hours).

The percentage tendered for pay item PS13.05 (e) shall be applied to the amounts expended under pay items PS13.05 (d) to generate an amount that covers all the monies required by the Contractor for managing the training, paying the trainees, and any other costs that may arise from these payments, including any Contractor's profits and overheads.

PS13.06 HIV/Aids and Occurrence of Pandemic Awareness Training

- (a) Training..... Provisional Sum
- (b) Remuneration of the workers undergoing training Provisional Sum
- (c) Handling costs and profit in respect of sub-items PS13.06 (a) and (b)(state as % and extend as an amount) %

The provisional sum for sub-item PS13.06 (a), allows for the provision of the HIV/AIDS awareness training programme delivered as specified in the document. This money shall only be expended on the direct instruction of the Engineer. The reimbursement shall be for the final invoice amount from the training institution/s (excluding VAT) for the training.

The provisional sum allowed for pay item PS13.06 (b) is to remunerate the trainees at a rate per hour for attending training. The reimbursement shall be for actual attendance (total hours).

The percentage tendered for pay item PS13.06(c) shall be applied to the amounts expended under pay items PS13.04 (a) and (b) to generate an amount that covers all the monies required by the Contractor for managing the training, paying the trainees, and any other costs that may arise from these payments, including any Contractor's profits and overheads.

PS13.07 Public Awareness Programmes

- (a) Television and Radio Broadcast and Print Media PublicationsP.S.
- (b) Sensitization of the surrounding communityP.S
- (c) Handling costs and profit in respect of sub-items PS13.07(a) and (b)
(stated as % and extend as an amount) %

The provisional sum for sub-item PS13.07 (a) allows for the provision of the Public awareness programmes and activities provided as specified in the document. This money shall only be expended on the direct instruction of the Engineer. The reimbursement shall be for the final invoice amount from the public awareness service providers (excluding VAT).

The provisional Sum allowed for pay item PS13.07 is to remunerate the public awareness service providers at a rate agreed by the Roads Authority. The reimbursement shall be for actual costs incurred.

The percentage tendered for pay item PS13.07 (b) shall be applied to the amounts expected under pay items PS13.07 (i) to generate an amount that covers all the monies required by the Contractor for managing the public awareness activities, paying the media service providers, and any other costs that may arise from these payments, including any Contractor's profits and overheads.

SECTION 1400 HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL

Replace clause 1401 with the following:

PS 1401: SCOPE

This Section covers the provision of accommodation for the Engineer's supervisory staff. This accommodation shall be the necessary laboratory accommodation, and the provision of all the necessary services.

Replace clause 1402 with the following:

PS 1402: LABORATORY

Provision of the laboratory facilities for the use of the Engineer shall be ready for occupation and use by the Engineer within thirty (30) days (including days for mobilization) of the official commencement date.

The Contractor shall make all arrangements and pay all necessary charges for the provision and maintenance of the following services to the laboratory to the satisfaction of the Engineer:

- (a) Supply of electricity for power and light (220-250 v AC, 50 Hz) from a public utility.
- (b) Supply of clean, fresh, potable water; either from a public utility or provided directly by the Contractor.
- (c) Disposal of sewage and waste water
- (d) Split type remote controlled air conditioners. The air conditioners shall have 2.5 KW minimum power and shall be capable of heating during winter.
- (e) Laboratory furniture and equipment specified in these specifications. The furniture and equipment shall be new and of quality acceptable to the Engineer.
- (f) A full-time attendant to clean and service the laboratory including all utensils and sundries for that purpose.

Furniture and Equipment for the Engineer's Laboratory Office

The Contractor shall supply new furniture and new equipment for the Engineer's laboratory as hereinafter listed.

Furniture for the Engineer's Laboratory Office

Item	No
Desks with lockable drawers (1830 x 915mm)	2
Table (1830 x 915mm)	1
Chair (2 arm chairs) robust and comfortable	6
Shelves (1830 x 1200mm x 350mm) with backing	1
Cupboards (1730mm x 900mm x 550mm (3shelves and lock)	1
Steel filing cabinets (1300mm x 460mm x 600mm) deep with 4 drawers on runners and lock	4
Wall Board	1
Electric heater, 750watt minimum rating	1
Waste paper baskets	2
Punch	1
Stapling machine	1
Stationary as required	

Laboratory Installations and Equipment, etc.

All equipment, chemicals supplies etc. necessary for the performance of the tests and procedures as described in BS 1377:1975 "Methods of Testing Soils for Civil Engineering Purposes" shall be supplied by the Contractor.

Part 2 Section 6: Scope of Works

Please refer to **PS 1205 (b) (iii)** regarding the required tests and procedures.

Miscellaneous Laboratory Equipment

The laboratories shall be supplied and resupplied, as often as necessary, with the minimum level of ancillary equipment as detailed below:

Item	No.
Metal thermometers reading to 260°C	2
Graduated steel rule	2
1000ml capacity measuring cylinder graduated to 5ml	2
500ml capacity measuring cylinder graduated to 5ml	2
1000ml beaker	2
Hotplate gas type	4
Wire gauze for use with hotplate	12
Tablespoons	3
Chisel blade, 200mm x 25mm	4
Knife, 200mm blade with wooden handle	4
Trowel, 150mm blade approximately 100mm wide	4
Plastic bucket with lid, approximately 300mm diameter and 450mm deep	6
Pick with handle	15
Shovel with handle	15
Panga	12
Metal drying trays, 1 metre square with raised edges	10
Paint brush 25mm wide	3
Hard bristle broom with handle	2
Scientific calculator	4
Ovens (aggregate volume 1m ³ minimum)	2
Rain gauges	3

Plus printed test forms, samples bags, hessian, plastic or 4 ply paper for large disturbed samples, towels soap etc., as required.

Asphalt testing Laboratory Equipment

Stability and Flow machine (Digital)	1
Centrifugal extractor	1
Specimen Mould Assembly	6
Specimen Extractor	1
Compaction Hammer	1
Compaction Pedestal	1
Specimen Mould Holder	1
Breaking Head	1
Loading Jack	1
Oven	1
Mixing Apparatus	1
Water Bath (Controller 25°C)	1
Kinematic viscometer (complete)	1
100mm Core drilling machine with 12 core drills	1
MTD test equipment	1
Penetrometer with 5 needles	1
Softening point devices including heating	1

Miscellaneous Equipment for Asphalt Testing

– Containers	12
– Mixing Tools	1
– Thermometers	1
– Balance (2.5 kg)	1
– Gloves	4
– Rubber Gloves	4

Part 2 Section 6: Scope of Works

- Marking Crayons	12	
- Scoop	1	
- Spoon		
- Sample ejecting device		
- Stability mould		1
- 2 Litre flasks	2	
- Thin-film Oven	6	
- Vernia Caliper	2	
- Timer	1	

For the laboratory works of the Engineer the Contractor has to provide as much semi-skilled workers as requested.

The laboratory shall at all times be provided with a sufficient stock of consumables equipment to allow for usage, breakage and deterioration. In the event of any item of equipment becoming unserviceable through any cause the Contractor shall, at his own cost, order replacements or spare parts to be air-freighted from the same supplier. This replacement equipment shall be new and as determined by the Engineer.

Protective Clothing for the Supervisor's Staff

- a) dust coats for laboratory staff including replacements as required
- b) sets of water-proof coats for all staff, mouth musk, safety boots and safety helmets for each of the staff; including replacements as required.

The reticulation network and the wiring installation of the laboratory shall be maintained at the highest standard of safety and reliability, with particular reference to the earthing installation and safety/protective devices.

The Contractor shall be responsible for providing all sanitary services necessary for keeping latrines in a clean, neat and hygienic condition. When no municipal sewage treatment is available, the Contractor shall provide the necessary septic tanks for all latrines. Waste water and septic tank effluent shall be discharged into properly designed French drains. The Contractor shall also make provision for the removal of all rubbish. Where the construction of septic tank or water - borne sewage scheme is unfeasible, the Contractor shall construct conservancy tanks and make arrangements for the removal and disposal of sewage.

The Contractor shall provide adequate 24 - hour security for the laboratory. The Contractor shall take all reasonable precautions to prevent unauthorized entry to the laboratory and to ensure overall security of camps, field laboratories and the site in general.

Maintenance or Replacement of Equipment and Provision of Consumables

All equipment provided shall be kept full serviceable at all times by the Contractor. The Contractor shall repair/replace any defective equipment within three days after notification by the Engineer's staff. The contractor shall also provide all stationary, paper (including also special photo quality paper) Laser Jet toner cartridges, colour and black ink cartridges, USB Memory sticks, CDs and CD storage containers required by the Engineer.

The Contractor shall insure the equipment against any loss, damage or theft and he shall indemnify the Engineer against any claims in this regard. This equipment shall be available for use by the Engineer at all times. The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.

Ownership of all the buildings, services, fittings and associated works, the laboratory furnishing shall remain with the contractor at the end of the Contract or at such earlier date as the Engineer may instruct with the exception of the laboratory equipment and furniture which shall revert to the Employer.

PS1407 MEASUREMENT AND PAYMENT

Change pay item 14.01, 14.02 and 14.03 as follows:

PS14.01 Laboratory Accommodation

Item	Unit
Provision of Laboratory accommodation as specified	Lump sum

Add: The tendered lump sums shall include all the materials and standards for laboratory in accordance with the details given in Particular Specifications and in the drawings.

PS14.02 Laboratory Furniture

Laboratory furniture as specified in the Particular Specifications.....	Lump sum
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Add: The tendered lump sums shall include all the furniture for laboratory in accordance with the details and as listed in Particular Specifications.

PS14.03 Laboratory Fittings, Installations and Equipment

Laboratory fittings, installations and equipment as specified in the Particular Specifications.....	Lump sum
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Add: The tendered lump sums shall include all the fittings, installations and equipment for laboratory in accordance with the details and as listed in Particular Specifications.

Amend Pay Item 14.08 as follows:

PS14.08 Services

(a) Services at laboratory.....	Month
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The tendered amounts shall include all specified services rendered to laboratory.

Create the following new pay items:

PS14.12 Security at Engineers' Laboratory..... month

The unit of measurement for the supply of security guards shall be the month. The rate tendered shall be full compensation for the supply of security guards, including transport, weapons, equipment and uniforms as may be applicable, as well as all other costs necessary to provide the security service. The tendered rate shall be payable for as long as the security service is required and provided, but not after the official completion date of the Contract`

PS14.13 Provision of semi-skilled labour for use by the Engineer

- (a) Provision of LabourersP.S.
- (b) Handling cost and profit in respect of PS 14.13 (a)
(State % and extend as an amount).....%

Payment under Item PS14.13 (a) shall be made monthly and the amount due to the Contractor will be equal to the total of the actual amount paid to the Engineer's semiskilled labourers plus the direct cost of medical and pension benefits, Workmen's Compensation, sick leave and holiday pay, incurred by the Contractor in respect of the Engineer's semi-skilled labourers. The Contractor shall advise the Engineer of the full monthly cost for each semi-skilled labourer engaged. No payment other than that provided above will be made in respect of the employment of semi-skilled labourers for the Engineer. Contract price adjustment will not apply to this item.

SECTION 1500

ACCOMMODATION OF TRAFFIC

PS1502

GENERAL REQUIREMENTS

Add the following new sub – clauses:

(i) Moving and display of signs

The Contractor shall adhere strictly on the sign layout and spacing shown on the drawings or directed by the Engineer. Any sign not required for or which is in contradiction with the prevailing situation, shall be removed or covered with non-transparent material without delay. Where permanent signs are to be covered it shall be done with non-plastic material.

(j) Failure to comply with provisions for the accommodation of traffic

The failure of or refusal by the Contractor to construct and / or maintain diversions, barricades, traffic signs or road markings at the proper time, or to take the necessary precautions for safety and convenience of public traffic as specified or instructed by the Engineer, shall be sufficient cause to suspend payment on this contract until the required construction or maintenance has been completed to the satisfaction of the Engineer considering that there is a risk to the public. Such stoppage of the payment will not be acceptable as a reason for extension of time or additional compensation.

PS1503

TEMPORARY TRAFFIC-CONTROL FACILITIES

Add the following after the second paragraph:

No work may proceed in any section where accommodation of traffic is required until such time as the relevant requirements with regard to sign posting are met. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the replacement of damaged or missing items within a period of three hours of instructions having been given by the Engineer.

(a) Traffic-control devices

Add the following:

Sufficient flagmen suitably trained and equipped as detailed in sub-clause (g) below, shall be provided at all designated access points on public road to and from the working areas to the satisfaction of the Engineer. The flags shall be at least 750 mm x 500 mm on a stick of adequate length.

When movable temporary signs are used, provision shall be made for sandbags on the sign bases to prevent the signs from being overturned by wind or eddies behind moving traffic, as detailed in sub-clause (h) below.

(b) Road signs and barricades

Add the following:

Retro-reflective material for temporary road signs shall comply with the requirements of SANS 1519.

The retro-reflective coefficients determined according to the methods of SANS 1519, shall be at least 60% of the values given in Table 1 of SANS 1519.

The classes shall be as specified in Sub-clause 5402 (g) of the Standard Specifications.

Road signs that do not comply with these standards shall be cleaned and re-tested or removed from the site and replaced with approved road signs.

(c) Channelization devices and barricades

Add the following:

Delineators shall comply with the following requirements:

- (i) A minimum contrast ratio of 4 shall exist between the yellow call 1 retro-reflective material and the black non-reflective material.
- (ii) Delineators shall be affixed in a flexible manner to the base units and shall be able to withstand wind speeds of at least 60 km/h without overturning. The bases shall be stabilised by placing of sandbags.
- (iii) The bottom edge of the delineator shall not be more than 200 mm above the road surface.

Cones (red-orange, fluorescent) with minimum height of 750 mm may be used as supplementary traffic-control facilities to delineators, but only for short-term lane deviations during daylight. Lane closures or deviations continuing into night time shall be demarcated by delineators. The maximum spacing between delineators or cones is 30 m.

Add the following sub-clauses:

(g) Worker clothing and safety jackets

All construction workers shall wear high visibility clothing when on the construction site. Any worker working on or adjacent to a trafficked road shall wear a safety jacket (reflective vests). Overalls shall be either orange or red-orange or yellow in colour with retro-reflective strips. Raincoats shall be bright orange or red-orange.

In addition, all flagmen are to be distinctly dressed in high visibility orange overalls, a safety jacket similar to those worn by traffic officers as supplied by Sparks and Ellis or similar approved.

Safety jackets shall also be made available to the Engineer and all his staff free of charge.

PS 1517: Measurement and Payment

Pay item 15.09 is not applicable and deleted. Pay items 15.01, 15.02, 15.03, 15.04, 15.05, 15.06, 15.07, 15.08, 15.10, 15.11, and 15.12 are combined and included into one pay item 15.01. The layout out for accommodation of traffic shall be in accordance with drawings No. C5-02, C5-03 and C5-04.

Item	Unit
PS15.01: Accommodating traffic, including all notices, signing, construction, providing, maintaining and reinstating temporary diversions	
.....	km

SECTION 1600 OVERHAUL

PS1601 Scope

Free-haul distance for this contract will be unlimited. Subsequently no separate payment will be made for overhaul irrespective of the material or the distance hauled.

SECTION 1700 CLEARING AND GRUBBING

PS1703 EXECUTION OF THE WORK

(a) Areas to Be Cleared, Grubbed and Stripped

At the end of this sub-clause add the following:

Removing topsoil too far in advance of excavation or filling operations may also cause re-clearing and re-grubbing. Payment for clearing and grubbing shall be made only once. Re-clearing and re-grubbing shall be at the Contractor’s own cost.

(b) Cutting of Trees

At the end of this sub-clause add the following:

Individual trees designated in writing by the Engineer shall be left standing and uninjured. Penalty, depending on its size and age, shall be imposed for every tree which is unnecessarily removed or damaged. The branches of trees to be left standing shall be trimmed so as to leave a 7 m clearance above the carriageway.

PS 1704: Measurement and Payment

The tendered rate for Item No. 17.01 shall also include the full compensation for safe removal of existing road signs with the resulting holes backfilled with acceptable material. The removed road signs shall be properly stacked and stored; the Engineer shall give an instruction for the final custody. Waste material shall be disposed of in accordance with the Specifications.

Add the following new pay items:

PS 17.04: Demolition, dismantling, removal and clearing of existing structures

Item	Unit
PS 17.04(a): Masonry structures	m ³
PS 17.04(b): Concrete structures	m ³

The tendered rate shall include full compensation for demolition or dismantling of the existing structures, clearing and disposal of the waste material from site including unlimited haulage costs.

Add the following new Pay Items:

Item	Unit
PS17.05 Treatment of ant or termite holes with approved Insecticide.....	Square metre (m ²)

The rate shall be for full compensation for scarifying the surface to a depth of at least 100mm, applying approved ant poison, remixing and spreading of the material. The application rate shall not be less than 5 litres of diluted ant poison per square metre or as directed by the Engineer. The concentrated chemical shall be diluted in accordance with the manufacturer’s recommendations. Mixing of the poison and its application shall be carried out in the presence of the Engineer or his representative."

Create the following new section:

SECTION PS 1800: DAY WORKS

PS1801 SCOPE

This section covers the listing of day work items in accordance with the General and/or Special Conditions of Contract determining payment for work which cannot be quantified in specific units in the Schedule of Quantities, or for work ordered by the Engineer during the construction period which was not foreseen at tender stage and for which no applicable rate exists in the Schedule of Quantities.

PS1802 ORDERING OF DAYWORK

No day work shall be undertaken unless written authorisation has been obtained from the Engineer.

PS1803 MEASUREMENT AND PAYMENT

Item **Unit**

PS18.01 PERSONNEL DURING NORMAL WORKING HOURS

(a)	Unskilled labour	Hr
(b)	Semi - skilled labour	Hr
(c)	Skilled labour	Hr
(d)	Ganger	Hr
(e)	Flagmen	Hr
(f)	Operators	Hr
(g)	Foremen	Hr
(h)	Surveyor	Hr
(i)	Lab technician	Hr

Item **Unit**

PS18.02 PERSONNEL OUTSIDE NORMAL WORKING HOURS

(a)	Unskilled labour	Hr
(b)	Semi - skilled labour	Hr
(c)	Skilled labour	Hr
(d)	Ganger	Hr
(e)	Flagmen	Hr
(f)	Operators	Hr
(g)	Foremen	Hr
(h)	Surveyor	Hr
(i)	Lab technician	Hr

Item

Unit

PS18.03 PLANT

(a)	Tip truck 10m ³	Hr
(b)	Motor grader Complete with scarifer (CAT 14G or equivalent)	Hr
(c)	Wheeled loader (CAT 980G or equivalent)	Hr
(d)	TLB (CAT 450 or equivalent).	Hr
(e)	Water bowser self-propelled (10 000L)	Hr
(f)	Vibratory roller (123KW, 10T)	Hr
(g)	Pneumatic roller (123KW, 10T)	Hr
(h)	Grid roller with tractor (5 to 7T)	Hr
(i)	Tractor (110HP)	Hr
(j)	Tracked excavator (CAT 223 or equivalent)	Hr
(k)	Bulldozer (CAT D8R or equivalent) .	Hr
(l)	Excavator (CAT 225 or equivalent)	Hr
(m)	Concrete Mixer (15HP, 0.5m ³)	Hr
(n)	Water Pump	Hr

The unit of measurement for items PS18.01 to PS18.03 shall be the hour for the item of plant or personnel. Non- working hours for the plant breakdown, lack of operator or any other reason shall not be measured. The item shall be taken from the time that the personnel and /or plant depart until return.

Measurement shall only be for work instructed and directed by the Engineer where the Engineer may consider no other appropriate rates is available in the schedule of quantities. Prior to the commencement of any work by the labourers described under items PS18.01 and PS18.02, the Contractor must obtain written consent from the Engineer regarding the classification of all labourers in terms of “unskilled”, “semi-skilled”, and “skilled labourers”

The tendered rates for labour for the items PS18.01 and PS18.02 shall include full compensation to cover overhead charges and profit, leave pay, bonuses, subsistence allowances, Employer’s contributions, additional payment for over overtime where applicable, insurances, housing, site supervision, use of small hand tools and appliances, non-mechanical plant, operative and contingent costs relating to the supply of personnel.

The tendered rates for Plant for item PS18.03 shall be all-inclusive hire charge for the use of trucks or plant/equipment including driver or operator and shall apply only to vehicles, plant and equipment nominated in writing by the Engineer. The tendered rate for item PS18.04 shall include full compensation for the operating costs including fuel, maintenance, depreciation, administrative and contingent costs as well as profit

Item

Unit

PS18.04 Materials

(a)	Procurement of materials	Provisional Sum
(b)	Contractor’s handling costs, profit and all other charges in respect of sub item PS18.04(a).	Percentage (%)

The Unit of measurement for sub-item PS18.04(a) shall be the amount actually paid for the procurement of materials to be purchased and shall be made in accordance with the provision of the General Condition of Contract. Only the actual quantities of materials used, as verified by the Engineer, shall be paid for.

The percentage tendered for sub-item PS18.04(b) shall be the percentage of the amounts actually paid for the procurement of the materials as ordered under the sub-item PS18.04(a) and shall be in full and final compensation in respect of the Contractor’s handling costs, profit, and all other charges in connection with the procurement and supply of the materials to the point of usage.

Item	Unit
PS18.05 Transport	
(a) LDV	kilometre (km)
(b) Flatbed truck	kilometre (km)

The unit of measurement for item PS18.05 shall be the kilometre distance that the vehicle travelled for transporting personnel and/or Plant. All travelling shall be approved by the Engineer.

The tendered rate for item PS18.05 shall include full compensation for the cost of the vehicle including fuel, maintenance, depreciation and running costs.

The above-mentioned tendered rates shall be in full compensation for the various items, as specified and not additional compensation shall be considered.

SECTION 2100 DRAINS

PS2103 BANKS AND DYKES

Add the following after the last paragraph

“Mitre banks, catch water banks and dykes shall be constructed using manual labour with the exception of hauling operations when haul distance in the opinion of the Engineer preclude the use of wheel barrows.

The Contractor may, however, construct certain banks and dykes using conventional plant-based methods where manual methods are not feasible provided that his reasons for using these conventional methods are adequately motivated in writing and approved by the Engineer.

Work executed using manual labour will be measured and paid for separately from work carried out using conventional methods.”

PS2107 MEASUREMENT AND PAYMENT

Add the following items:

Item	Unit
PS21.20 Backfill existing drains within road prism	m3

The unit of measure shall be the cubic metre. The tendered rate shall include for full compensation for procurement of the specified material from the Contractor’s borrow pit, placing it in existing drains after the drains have been cleared to the approval of the Engineer in layers and compacting it to specified densities.

SECTION 2200: PREFABRICATED CULVERTS

PS2203 MATERIALS

Add the following sub-clause:

(j) Steel reinforcement

Steel reinforcement for inlet and outlet structures, manholes and other appurtenant structures shall comply with the requirements of section 6300 of the standard specifications.

PS2204 CONSTRUCTION METHODS

Add the following to this sub-clause:

Culverts shall be constructed using the trench method as described in paragraph (a)

PS2211 BACKFILLING OF PREFABRICATED CULVERTS

Amend the first paragraph of sub-clause (a) to read as follows:

"The material used for the back-filling alongside the culvert shall be selected material of at least G7 quality. Where the excavated material is not of adequate quality selected material shall be imported for this purpose. The material placed over the top of the culvert shall be of the same quality as that of the road pavement at a similar depth but in any event of at least G7 quality."

PS2218 MEASUREMENT AND PAYMENT

Item	Unit
PS22.02 Backfilling:	m ³

Delete the last but one paragraph and substitute with the following:

The tendered rates shall include full compensation for backfilling under, alongside and over conduits, for disposing of excess excavated material, for watering and compacting the backfill material to the specified densities. In addition, the rates tendered for sub item (b) shall include full compensation for supplying selected material of subbase quality from approved sources, including the free haul distance stated in Clause 1600 and as amended herein.

Amend the description of Item 22.14 to read:

PS22.14 Removing and stacking existing culverts of all sizes and types.....	m
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Add the following new pay items

Item	Unit
PS 22.29 Cement mortared stone masonry:	
Lining for open channel horizontal or inclined	square metre
<p>The unit of measurement shall be the square metre of masonry built. The tendered rate per square metre shall include full compensation for the construction material including transport to site, the masonry work completed as specified to a thickness between 250mm and 350mm including pointing.</p>	

PS2300 CONCRETE KERBING, CONCRETE CHANNELLING, OPEN CONCRETE CHUTES AND CONCRETE LININGS FOR OPEN DRAINS

PS2302 MATERIALS

(d) Bedding material

Add the following:

"A class 15/13 semi-dry concrete mix shall be used unless otherwise directed by the Engineer"

Replace Pay Item 23.08 with the following new pay items:

Item	Unit
PS23.08 Concrete lining for open drains:	
(a) Cast in situ concrete lining (Concrete Class 20/19) for open drains (All types of drains including formwork Class F2 surface finish, sealing of joints with approved sealant and weep holes):	
(i) 75mm thick to vertical or inclined surfaces.....	m ²
(ii) 100mm thick to horizontal surfaces.....	m ²
(b) Concrete class 20/19 in precast slabs 150mm thick to bridge open drain Including reinforcement and all formwork (crossover slabs as specified in drawing No. CP-ILOM-TZ/TSH/601).....	m ³

The unit of measurement shall be the square metre of the drain surface lined as specified in drawings. The tendered rate shall include full compensation for painting open joint surfaces as specified.

The tendered rate shall include full compensation for casting concrete of the specified thickness and class, for supplying and fixing formwork, for weep holes, for forming and sealing joints, all as specified in the drawings.

Add the following new pay items

Item	Unit
PS 23.16 Brickwork and Blockwork:	
150mm hollow blocks filled with class 20/19 concrete with one 12mm dia mild steel bar per hole (for use on support to cross over slabs)	square metre

The unit of measurement shall be the square metre as specified in drawings. The tendered rate shall include full compensation for painting open joint surfaces as specified.

PS23.17 Plaster to brickwork..... m2

The unit of measurement shall be the square metre of brick work plastered. The tendered rate shall include full compensation for supply, mix and plastering the specified thickness and class of mortar all as specified in the drawings.

SECTION 3100 BORROW MATERIAL

PS 3101: SCOPE

Add the following to the end of this clause:

The possible locations of sites for proposed quarries and borrow pits for construction materials are indicated in the materials survey report. The Contractor shall satisfy himself as to the suitability of such sources by trial pits dug on a 25 m grid through the full depth of the material being investigated and testing samples from each pit for classification, CBR and compaction. It shall be, in any case the responsibility of the Contractor to provide sufficient material of approved quality to complete the Works.

The Contractor may, with the approval of the Engineer, locate and open up quarries and borrow pits in addition to those indicated in the materials survey, in which case he shall investigate these additional sources as specified above for borrow areas designated in the materials survey.

The Contractor must obtain a permit from the Chief Mining Engineer before opening up stone quarries.

The Contractor shall remove all ant-hills, ants' nests, vegetation, topsoil, overburden, boulders, rock, unsuitable and oversize material, and shall provide, erect, operate and maintain all plant necessary for the operation of quarries and borrow pits, together with all access roads, bridges and the like, all at his own expense unless otherwise provided as a pay item..

PS 3102: Negotiations with Owners and Authorities

Replace clause 3102 with the following:

The Contractor shall satisfy himself that all necessary negotiations have been made with the owner (if any) of the land on which any borrow pit is situated, prior to the opening of such borrow area. The attention of the Contractor is drawn to the provisions of Clause 1214.

PS 3108: Classification of Borrow Pits for Gravel Materials for Pavement Layers

Delete this clause in its entirety.

Add the following clause to Section 3100:

PS 3110: Explosives and Blasting

Blasting shall be carried out in strict accordance with the latest Government regulations, and at all times shall be carried out and supervised by fully qualified persons in terms of these Regulations. If in any situation blasting is considered dangerous, the Engineer's decision in this respect shall be final. Should any damage of any kind occur, the Contractor shall be solely responsible for such damage or

any claims that may arise therefrom, and shall, at his own expense, carry out repairs or restoration as the Engineer may direct.

Care shall be taken that no undischarged cartridges are allowed to remain in the excavation. Careless or indiscriminate use of explosives will result in the Engineer withdrawing permission for their use and under such circumstances the Contractor shall resort to other methods of excavation.

The Contractor shall obtain the written permission of the Engineer for each location where the Contractor requires using explosives.

SECTION 3200 SELECTION, STOCKPILING AND BREAKING-DOWN THE MATERIAL FROM BORROW PITS AND CUTTINGS, AND PLACING AND COMPACTING THE GRAVEL LAYERS

PS3202 SELECTING THE MATERIALS

Add the following:

“The quality of the materials in the borrow pit is inconsistent. Good quality material is often limited to small pockets. It may therefore be necessary to stockpile and mix materials to ensure that the quality of the material will comply with the specified requirements for a particular layer for which it will be used. The cost for these processes shall be deemed to be covered by the rates for the various items of work for which these materials are used.”

PS 3206 CONTROLLING THE MOISTURE CONTENT OF MATERIALS

Add the following to the third paragraph:

The time required for doing work to accelerate the drying out of wet material or for dealing with wet material as described above, shall not be regarded as part of a delay caused by inclement weather in terms of clause PS 1215.

SECTION 3300 MASS EARTHWORKS

PS3305 TREATING THE ROADBED

(a) Removing unsuitable material

Add the following to the first paragraph of this sub-clause:

"Roadbed material within 1.0 m of the finished road level shall have a minimum CBR of 3 at 90% of modified AASHTO density, after compaction. Any material which does not meet this requirement shall be treated as unsuitable and removed."

(c) Preparing and compacting the roadbed

Where the roadbed is anywhere within 1.0m of the selected formation layer, it shall be compacted to 93% of modified AASHTO density. Roadbed shall be compacted to 90% of modified AASHTO density where it is more than 1.0m below the selected formation layer.

PS 3312 MEASUREMENT AND PAYMENT

Delete in pay – items 33.01, 33.02, 33.04 and 33.07 the wording “including free – haul up to 0.5 km” and replace with: “including unlimited free – haul distance”.

Amend pay Item 33.01, Cut and borrow to fill (a) and (e) with the following:

Item	Unit	
PS 33.01	Cut and borrow to fill including unlimited Free-haul distance	
	(a) Gravel or soft fill material in compacted layer thicknesses of 200 mm or less	
	(i) compacted to 90% modified AASHTO density	cubic metre
	(ii) compacted to 95% modified AASHTO density	cubic metre
	(f) Sand filter blanket	cubic metre
PS33.03	Extra over 33.01 for excavating and breaking down the material	
	(a) Hard material	cubic metre
PS33.04	Cut to spoil including unlimited free haul material obtained from	
	(a) Soft excavation	m ³
	(b) Hard excavation	m ³
PS33.07	Removal of unsuitable material obtained from any type of material and excavation in any layer thickness with unlimited free haul.....	m ³
PS33.10	Roadbed preparation and the compaction material	
	(a) Compacted to 90% modified AASHTO	m ³
	(b) Compacted to 95% modified AASHTO	m ³

SECTION 3400 PAVEMENT LAYERS OF GRAVEL MATERIAL

PS3402 MATERIALS

Add the following to (a) General

The material test results for the available gravel material on the various borrow pits in general showed a high plasticity index (PI). The quantity of gravel material complying with the requirements of the standard specifications is limited.

Change Clause 3402 (b) as follows:

The maximum plasticity index of the natural material for selected layer shall be 25%

Change Clause 3402 (c) (ii) as follows:

The maximum plasticity index of the natural material for sub - base shall be 20%

Change Clause 3402 (d) (ii) as follows:

The maximum plasticity index of the natural material for base shall be 18%

PS3403 CONSTRUCTION

(b) Placing and compaction

(ii) Shoulders

Add the following:

Shoulders shall be constructed from the same material as the base

PS3407 MEASUREMENT AND PAYMENT

Change pay item 34.01 as follows:

Delete the wording “including free – haul up to 1.0 km” and replace with “including unlimited free – haul distance”.

Delete the second paragraph (payment paragraph) of item 34.01 and substitute with the following:

The tendered rates shall include full compensation for mixing, (and mechanical stabilisation for base), watering, placing and compacting the material supplied under item PS34.01, and the protection and maintenance of the layer and the conducting of control tests, all as specified.

SECTION 4100 PRIME COAT

PS 4102 MATERIALS

(a) **Priming material**

Add the following:

The prime coat shall be MC 30 cut-back bitumen.

SECTION 4200: ASPHALT BASE AND SURFACING PS 4214 MEASUREMENT AND PAYMENT

Amend the wording of pay item 42.02 to read:

Item	Unit
PS42.02 Asphalt surfacing, 50mm thick, using 50/70 penetration grade bitumen, including binder and active filler variations	
(a) Continuously graded (Medium grading)	m2

SECTION 4300: MATERIALS AND GENERAL REQUIREMENTS FOR SEALS

PS 4303: Plant and Equipment

(a) **General**

Add the following:

The Contractor shall ensure that he has a very good competent surfacing team, which is capable of delivering a high quality standard of workmanship; i.e. Competent and experienced Asphalt Foreman, operators and attendants, who have abilities of carrying out binder distribution and seal work operations within specified tolerance of applications and according to final product requirements.

The Engineer will instruct the removal of incompetent staff from site and a replacement thereof with a competent staff if satisfactory performance is not achieved and maintained.

(b) **Binder distributor**

Add the following:

"The binder distributor shall be capable of spraying the binder to the specified application rates and to the satisfaction of the Engineer. It is important that the pump of the distributor shall be capable of delivering the binder at the spray bar nozzles at the correct pressure to obtain the specified application rates, irrespective of the viscosity properties of the proposed binder. The spray bar of the distributor shall be fitted with fishplates at the outside edge of the bar to prevent over spraying onto shoulders or staining of concrete elements on the edge of the surfacing of the road. If instructed by the Engineer, the outside nozzles of the spray bar shall be turned to a 45° angle to achieve a thickened edge of binder along the outside limits of the seal area.

The variation in the rate of application between two adjoining 100 mm strips shall not exceed 5%, excluding the outside 300 mm on either side of the spray bar. The coefficient of the variation shall not exceed 10%. The test procedure shall be as prescribed in the Modified Tray-test contained in TRH 3 and shall be carried out each time the distributor is established on site or at least once per week. The binder distributor shall thus carry a set of troughs at all times in order to allow the execution of this test.

A calibration certificate, not older than 3 months, for the binder distributor shall be presented to the Engineer in order to ensure accurate application rates.

The binder distributor shall be fitted with a suitable valve or other access gate for taking of samples of the binder for testing purposes."

PS 4304: GENERAL LIMITATION AND REQUIREMENTS

(a) Weather limitations

(i) Non-homogeneous Modified Binders (summer grade)

The minimum road surface temperature for applying bitumen-rubber binder shall be 25°C, and if below 25°C, the air temperature shall be at least 20°C and rising. As soon as the minimum air temperature at night is recorded to fall below 10°C, seal-work shall cease until warmer weather conditions are experienced.

Application of binders shall not be allowed if the existing cracks in the road contain moisture after rain.

(d) Preparation of areas to be sealed

(ii) Newly constructed seals

For the repair and filling of uneven spots in the completed base shallower than 12mm, a slurry complying with the requirements of clause 4604 (c) shall be used, based on one of the gradings of a Fine slurry.

60% stable mix-grade emulsion prepared from 70/100 penetration grade bitumen shall be used as binder.

The mix of fine aggregate, which shall be used for repairs shall comply with the following requirements by volume in the case of the irregularities exceeding 12mm in depth:

9.5mm nominal sized aggregate	1 part
6.7mm nominal sized aggregate	1 part
Fine –graded crusher sand	1 part

Each patch shall be compacted by means of two passes of a steel-wheeled roller of minimum mass of one comma five (1.5) tons, which compaction must be applied within four (4) hours after the emulsion has broken.

(iii) Existing Surfaces to be resealed

If so instructed the Contractor shall seal wide cracks by hand-application of Petrol seal. Payment will be made at Dayworks rates. Localised undulations shall be repaired as for base corrections, where and if so instructed, also on Dayworks rates.

Except at the intersections, the existing surfacing shall be cut back to a width of 7.4m with a roller cutting blade attached to a heavy self-propelled roller. The redundant surfacing strips shall be removed and edge break repairs shall be carried out before completion of the reconstruction of the shoulders, where such reconstruction is instructed.

Three (3) weeks prior to commencements of resealing operations an MSP 3 inverted emulsion rejuvenator shall be applied over the full width of the narrowed existing road seal, plus 100mm to 300mm wider along each side. The MSP 3 rejuvenator spray, shall be applied in half widths at an application rate of 0.5 l/m² during the summer months, before the start of the rains and the sprayed section kept closed to traffic for at least five (5) hours before re-opening.

PS 4305: HEATING AND STORAGE OF BITUMINOUS BINDERS

(b) Non- homogenous (heterogeneous) modified binders (summer grade)

Bitumen rubber binder shall not be stored at all. Once the rubber is added to the base bitumen, the product shall be applied to the road as soon as it is adequately digested and at spraying temperature. Any binder left in the distributor at the end of the allowable spraying period, or not applied due to an unforeseen stoppage lasting till beyond the spraying period, shall be removed from site. Even a forced stoppage in the blending period between addition of the rubber and heating to spraying temperature shall not be considered as a reason for the approval of storing the binder for later use. Reference shall be made to the specified limitations regarding the programme of work and lengths of construction areas described in section 1200 and 1500 of these specifications.

The Engineer's supervisory staff shall, through timeous notification by the Contractor, be afforded the opportunity to attend to all bitumen rubber blending operations in order to exercise control sampling and testing on the binder from the stage just prior to the addition of the rubber to the base bitumen up to the end of the allowable spraying period. Failure to conform to the requirements will be considered reason enough by the Engineer to reject the batch of binder.

PS 4310: Dust Control

Delete paragraph two.

5000 ANCILLARY ROAD WORKS

Add the following new section:

SECTION PS5050: BUS BAYS

PS 5051 Scope

Bus Bays will be located on site as instructed by the Engineer. Where Bus Bays are situated on opposite side of the road, they shall be located such that the entry tapers follow each other and not the exit tapers that shall be remote from each other.

The Bus Bay shall be constructed as detailed in the drawings. The construction works shall include the following items:

- Gravel base on top of separately prepared sub base and earthworks
- Kerb stone type S1 including backing with concrete
- Concrete for bus bay 200 mm Class 30/20 with shrinkage joints and brushed surface finish
- Steel fabric reinforcement – Ref 617 in concrete
- Joints and sealant
- Finishes
- Drainage outlets through kerbs and verge
- Fill for side walk behind kerb stones

PS 5052 MEASUREMENT AND PAYMENT

Payment for Bus Bays item shall be made as comprising of all the activities mentioned under PS 5051 above, for the number of Bus Bays as instructed by the Engineer.

Excavation and fill below the sub base will be measured and paid under separate measured items.

The following pay items are applicable:

PS 50.01: Bus Bays: Construct Bus Bays as per typical bus bay drawing

- (a) Subbase 95% modified AASHTO in layers of 200mm m³
- (b) Base Constructed from crushed stone obtained from commercial sources and compacted to 102% of modified AASHTO density (nominal maximum size 37mm) m³
- (c) Class 30/20 concrete reinforced with steel mesh Ref 617
as detailed in drawing No. CP-ILOM-TZ/TSH/601m³
- (d) Kerb stone Type S1 including backing with concrete m
- (e) Drainage outlet No.

SECTION 5100 MARKER AND KILOMETRE POSTS

PS 5101 SCOPE

Add the following to this Clause:

Road reserve demarcation beacons shall be constructed according to details on drawing No. CP-ILOM-TZ/TSH/601 at an interval of 200m on either side of the road.

PS 5106 MEASUREMENT AND PAYMENT

Add the following pay item:

Item	Unit
PS 51.03 Road reserve demarcation beacons	No.

The unit of measurement shall be the number of beacons installed to the satisfaction of the Engineer

The tendered rate shall include full compensation for excavation, materials, construction, backfilling and plastering of the beacon.

SECTION 5200: GUARDRAILS

PS 5202 MATERIALS

5202(b) Guardrail posts

Add the following:

(iii) Concrete posts

Guardrail posts shall be of prefabricated concrete according to the detail on the drawings. Timber spacer blocks shall comply with specifications of Clause 5202.

PS 5203 CONSTRUCTION

5203(a) Erection

Add the following to the 3rd paragraph:

The bolts shall be tack welded to the nuts in order to reduce the risk of vandalism.

PS 5206 MEASUREMENT AND PAYMENT

Add the following pay item:

Item	Unit
PS52.13 Galvanised and painted guardrails on concrete posts including end units and reflective plates as per drawing.....	metre (m)

The unit of measurement shall be the metre of guardrail erected including end units. The tendered rate shall include full compensation for furnishing all materials and labour and for erecting the galvanized guardrails painted as specified on the drawings or as directed by the Engineer, complete with prefabricated concrete posts, spacer blocks, bolts, nuts, washers and reinforcing plates, bull noses and for excavating and backfilling post holes with 15Mpa concrete and/or selected excavated material and removing surplus excavated material.

SECTION 5400: ROAD SIGNS

PS 5401 SCOPE

Substitute the second paragraph with the following:

All Road Traffic Signs shall comply with the South African Development Community (SADC) Road Traffic Sign Specifications.

- (1) The Traffic Sign details shown on the drawings give general information on the erection, placing and details of several of the required signs. Details of signs not shown on the drawing shall be in accordance with Regulations. The specifications information regarding the dimensions and locations of signs reference should be made to "The SADC Road Traffic Signs Manual".
- (2) The exact location of signs shall be as directed by the Engineer.
- (3) Sign faces will be constructed of sheet steel of a minimum thickness of 1.6 mm and the back of the sign shall be painted grey.
- (4) Regulatory and warning signs shall be similarly mounted; larger signs shall be mounted on two or more 75mm diameter galvanised mild steel posts. Where the horizontal or vertical dimension exceeds 900mm, the sign shall be stiffened by means of 25mm x 25mm rectangular hollow sections as detailed on the drawings. All guide or information sign posts are to be painted grey. Sign posts for regulatory and warning signs shall be painted with alternating bands of yellow and black.
- (5) The size of guide or information signs shall be as specified in the regulations. The layout of the sign (letter spacing, size, border size, etc.) and colours shall be as given in the SADC Regulations.
- (6) The size, colours and letter series type for regulatory signs will be as given in the SADC Regulations, or as shown on the drawings or as instructed by the Engineer.

All warning and regulatory traffic signs on the Main Road shall be at least size 1200mm for the design speed of 120km/hr.

All warning and regulatory traffic signs on the Access Roads shall be at least size 914mm for the design speed of 80km/hr.

- (7) Warning signs will be on an equilateral triangle with a white reflectorized symbol on a blue reflectorized background. The size of the triangle will be as given in the SADC Road Traffic Sign Specification or as shown on the drawings or as instructed by the Engineer.
- (8) All signs are to be reflectorized with engineering grade retro reflective materials. The material is to be good quality and is to be affixed to the sheet metal according to the manufacturer's recommendations".

PS 5409 MEASUREMENT AND PAYMENT

Delete pay items 54.01, 54.02 and 54.03 and replace with the following:

Item	Unit
PS54.01 Road sign boards with painted or coloured background. Symbols, lettering and borders in Class 1 retro-reflective material, complete with posts and supports pre-painted galvanised steel plate (Chromadek or approved equivalent) position as shown on the drawings:	
(a) Area not exceeding 2m ²	m ²
(b) Area exceeding 2m ² but not 10m ²	m ²
(c) Area exceeding 10m ²	m ²

Add the following new pay item:

Item	Unit
PS54.10 Erection of Standard Road Signs.....	No

The unit of measurement shall be the number of specified road signs erected. The tendered rate shall include full compensation for the provision and fixing in position of sign faces, posts, nuts, for painting the surfaces, lettering, excavation for posts, concreting, backfilling, removal of excess excavated materials, etc. and all that is necessary to make the work comply with the specifications.

SECTION 5500: ROAD MARKINGS

PS 5501 SCOPE

Add the following: -

After sections of road are completed and before being opened to traffic all road markings are to be completed. The road studs will not be placed at this stage. The Contractor shall return during the Defects Notification Period to re-paint all road marking as specified as well as the placement of road studs.

All Road Traffic Markings shall comply with the South African Development Community (SADC) Road Traffic Sign Specifications.

The Contractor may use thermoplastic marking material and shall provide a three year guarantee for the road traffic markings. Towards the end of the Defects Notification Period the Contractor shall repaint all road traffic markings. No separate payment shall be payable. The Contractor shall make appropriate allowance in his programme and his tender rates for re-painting at the end of the Defects Notification Period.

The Employer shall withhold retention monies due until the Contractor has repainted the road markings to the satisfaction of the Engineer. Should the Contractor fail to remobilize the road marking unit team and attend to the notified defects within the Defects Notification Period, the Employer may use the retention money to engage other Contractors to carry out the outstanding work and deduct these costs from the retention monies. Should these retention moneys be insufficient to cover the cost of correcting the road traffic markings then the Employer may recover the shortfall from the Contractor by legal processes.

PS 5502 MATERIALS

5502(b) Road studs

Delete the first paragraph of the sub clause and substitute with the following:

Road studs shall consist of an acrylic plastic shell filled with a tightly adherent potting compound. The shell shall contain two prismatic retro-reflective faces to reflect incident light from opposite directions. The colour shall conform to the colour requirements of ASTM D4280.

The shell shall be moulded of methyl methacrylate conforming to ASTM D788 Grade 8. The outer surface of the shell shall be smooth. The base of the marker shall be substantially free from gloss and substances that may reduce its bond to adhesive.

The filler shall be a potting compound capable of supporting a minimum load of 909 kg when tested in accordance with ASTM D4280.

The size, colour and spacing of road studs shall be as indicated on the Drawings or directed by the Engineer.

PS 5504 MECHANICAL EQUIPMENT FOR PAINTING

Insert the following additional paragraph after the first paragraph:

Equipment for thermoplastic marking shall consist of at least one truck mounted storage boiler, a screed box on wheels and an extruder or spraying machine. A steel manual screed shall be used to paint arrows and other symbols. The extruder may be truck-mounted or self-propelled. Boilers must be fitted with mechanical stirrers to keep the mineral matter and glass beads in suspension. Accurate thermometers and thermostats are required on all boilers.

PS 5507 APPLYING THE PAINT

Add the following at the end of the third paragraph:

The thickness of thermoplastic laid in the trial and for each day's work shall be checked by applying the material to a clean steel plate. The plate sample shall be taken while marking is in progress by positioning the plate on the road in the projection of the line which is about to be marked. The thickness shall then be confirmed with callipers. Gaps left within the road markings due to testing shall be immediately reinstated.

Add the following to end of the last but one paragraph:

The rate of application of thermoplastic road paint shall be related to volume and be that amount sufficient to achieve the specified nominal line thickness.

Add the following to the last paragraph:

After completion of a section of asphalt surfacing and before opening the section to traffic, the pre- marking of the centre and edge lines shall be done. At least two weeks shall elapse after completion of the surfacing before the permanent road markings shall be applied, unless otherwise directed by the Engineer.

PS 5508 APPLYING THE RETRO-REFLECTIVE BEADS

Add the following to the end of the first paragraph:

In the case of thermoplastic paint, the rate of application of beads shall be 0.5kg/m² of marking. This amount shall be in addition to the quantity already mixed within the composition of the thermoplastic.

PS 5514 MEASUREMENT AND PAYMENT

Delete pay item 55.04: Variation in the rate of paint application.

The Contractor shall be deemed to have included the cost of this item in the rates tendered for road marking.

SECTION 5700 LANDSCAPING, TOPSOILING AND GRASSING

PS 5702: Materials

Add the following to the relevant sub-clauses:

(a) Fertiliser/Soil-Improvement Material

Fertilisers shall not be used in this Contract.

(b) Grass Cuttings

Grass cuttings shall be fresh cuttings of the species as specified by the Engineer

(c) Grass Seeds

The Contractor may use grass seeding in lieu of planting, but no additional payment shall be made for hand seeding or hydro-seeding.

(d) Trees, Shrubs and Hedge Plants

This sub-clause is deleted.

(e) Grass Sods

Delete this sub-clause and replace it with the following:

“Veld sods may be obtained from approved areas where a suitable type and density of grass are found. No additional payment shall be made for sods.”

(f) Anti-Erosion Compounds

This sub-clause is deleted.

(g) Topsoil

Delete paragraphs two, three and four, and replace them with the following:

“Topsoil shall be obtained from stripping operations under embankments and in cuttings in accordance with Sub-Clauses 1702(c) and 1703(a). Topsoil stripped from borrow areas shall not be used for top-soiling elsewhere but must be used to rehabilitate the borrow areas themselves. If the Contractor fails to conserve the topsoil as prescribed in Sub-Clause 1702(C), he shall obtain suitable topsoil from other sources at his own cost.

“Care shall be taken to prevent the compaction of the topsoil in stockpiles or in the Works in any way, particularly by trucks driven over such material.”

PS 5704: Preparing Areas for Grassing

(a) Soil Ripping

This sub-clause is deleted.

(b) Areas Which Do Not Require Topsoil

This sub-clause is deleted.

(c) Areas Which Require Topsoil

Add the following to this sub-clause:

All surfaces to be grassed shall immediately before grassing be roughened to ensure a proper bond with the topsoil. Topsoil free from stones shall be placed on the prepared surface and trimmed to a thickness slightly higher than the final thickness.

Where shown on the Drawings or directed by the Engineer the verges and the slopes of cuttings and embankments shall be covered with topsoil and lightly rolled to the required final thickness.

(d) Fertilising

This sub-clause is deleted.

PS 5705 Grassing

The Contractor shall choose the method of establishing grass. No additional payment shall be made regardless of the method of grassing employed by the Contractor.

Add the following to this sub-clause:

(a) Planting Grass Cuttings

Fresh grass cuttings of the "Kapinga" species or other approved species shall be planted by the Contractor at 250 mm centres and watered at frequent intervals to ensure the grass takes root and spreads out quickly. Grass cuttings that have been allowed to dry out shall not be planted.

All grass shall be planted before the start of the defects liability period for any section of the road.

Add the following to this sub-clause:

(c) Hydroseeding

The Engineer shall approve the types and mixtures of seeds to be used before the Contractor orders any seed. Hydroseeding shall be carried out with an approved hydroseeding machine at a rate of application of not less than 38 kg of seed mixture per hectare. Mulch shall be added to the hydroseeding mix at an approved rate.

(d) Top-soiling Only

This sub-clause is deleted.

Add the following to this sub-clause:

(e) Grassing with an Approved Grass Planter

Grassing shall be done with an approved grass planter which plants the seeds in rows spaced not more than 250 mm apart. The planter shall plant the seeds approximately 6 mm deep and shall lightly compact the topsoil.

(g) Other Methods

This sub-clause is deleted.

(h) The Grassing of Borrow Pits, Temporary Bypasses, Camp Sites, Access Roads and Stockpile Sites

This sub-clause is deleted.

PS 5706: Maintaining the Grass

(a) Watering, Weeding, Mowing and Replanting

On line one of paragraph two delete “mow” and replace with “cut”.

(b) Acceptable Cover

At the beginning of this sub-clause add the following as first paragraph:

“The Contractor shall be solely responsible for establishing an acceptable grass cover and for the cost of re-establishing grass by any method where no acceptable cover has been established.”

(c) Maintenance Period

The maintenance period in respect of grass shall commence when an acceptable grass cover as defined in (b) above has been established and shall last one year or to the end of the period of the Contract, whichever expires later.

The Contractor shall be responsible for watering, cutting and maintenance of all grassed areas during the period of maintenance.

(d) Proprietary Brand Materials Used for Erosion Prevention

This sub-clause is deleted.

(e) Responsibility for Establishing an Acceptable Cover

This sub-clause is deleted. Sub-Clause 5706(b) applies.

(f) Re-Fertilising

This sub-clause is deleted.

PS 5707(C): TREES AND SHRUBS

Add the following:

All trees and shrubs grass shall be planted prior to the start of the defects liability period for any section of the road.

PS 5709: Measurement and Payment

Payment items 57.01(a) and (b) are merged into one payment item 57.01. In the last paragraph under Item 57.01, payment shall NOT distinguish between machine trimming which can reasonably be done by bulldozer or motor grader, and hand trimming.

Payment item 57.04: the tendered rate shall include preparing the area for grassing, top-soiling using materials from road reserve or from other sources (unlimited free haul), stockpiling, watering the grass and weeding until the grass is established. The unit of measurement for planting Vetifer grass shall be the metre run of established grass.

Payment items 57.09(b)(i) and 57.09(b)(ii): the tendered rates shall include the full compensation for providing the trees and the shrubs, landscaping, protection from fire.

INTRODUCE:

SERIES 8000: SPEED CALMING FEATURES

PS8100 HUMPS AND RUMBLE STRIPS

Humps and rumble strips shall be constructed, arranged and spaced according to details provided in the drawings.

PS8101 Measurement and Payment

Item		Unit
PS81.01 (a)	Installation of humps as per drawing detail	No.
PS81.01 (b)	Installation of rumble strips in sets of five as per drawing detail	Set

The tendered rate shall include cost of preparing the area for the hump or strip, setting-out, transport, materials, installation, trimming, cleaning and clearing the area and all other costs associated with the construction of the hump or strips.

SECTION 9000: SUPPLY, INSTALLATION AND COMMISSIONING OF STREET LIGHTING SYSTEM

PS 9001: Installation of Glass Fibre poles

Add the following Clause.

The Contractor shall Install glass fibre poles manufactured in accordance with SANS 1749 under the ISO 9002 quality system. If an access opening is required, the access door cover shall be manufactured from glass filled nylon impregnated in the same colour as that of the surface coat. A cable entry with a minimum diameter of 34mm shall be provided at a minimum depth of 400mm below the ground surface. Poles for direct embedment in the ground shall be provided with a 300 x 300 x 1.6mm hot dipped galvanised base plate.

The details of the poles shall be as indicated on the drawings.

PS 9002: Installation of 50w all in one solar street light

Add the following Clause.

The Contractor shall supply and install solar panel power 18v/50Wp (Monocrystalline PV). Life-span 25 years Batteries Capacity/Type 12.8V/36AH (460.80WH) / LiFePO4

Part 2 Section 6: Scope of Works

Lithium. Lifespan 5+ years (2,000 cycles) Controller Type MPPT / Waterproof class IP65 Sensor Microwave Radar (PIR & Timing as optional). LED Light Source Rated Power 12V/ 50W (36Wx2 modules) LED Brand CREE/OSRAM (LED Lumen: 150lm/W) Lumens (LM) 2000-3000lm Life-span 50,000 hours Viewing Angle 1400 x 700 Full Charge Time By Solar 6-8 hours (STC: 1000W/m2, 25° C) Discharge Time Bright Mode >14 hours , Dim Mode >70 hours Working Temp. -30°C~+80°C Color Temp. Cool White 3000K (3000~3500k) / Space Between Lights 30~35m Materials aluminium alloy Certificate ROHS / IP65/ STQC/MNRE warranty-36 months from the date of supply. "specialized for street lighting purposes"

PS 9003 MEASUREMENT AND PAYMENT

Add the following pay items:

Item	Unit
PS90.01 Glass fibre poles 32m apart, manufacture, logistics and installation.	No

The unit of measurement shall be in No. The tendered rates shall include procuring, logistics, installation and including any other works, operation or activity necessary for completing the installation of poles in compliance with the specifications and drawings.

Add the following pay items:

Item	Unit
PS90.02 Supply and installation of 50W all in one solar street light	
No	

The unit of measurement shall be in No. The tendered rates shall include all items listed above

PART B-2: PARTICULAR SPECIFICATIONS FOR ENVIRONMENTAL MANAGEMENT PLAN

1.0 ENVIRONMENTAL MANAGEMENT TEAM (EMT)

The Contracting Authority will be represented on site by a Resident Engineer (RE) and his inspection team will include an Environmental Control Officer (ECO) who shall determine members of the site supervision team as the Environmental Management Team (EMT) that will report on the activities to the Contracting Authority through RE.

The EMT will be responsible for monitoring the performance of the Contractor during the construction phase with regard to Environmental issues and to assess the effectiveness of the impact mitigation measures in protecting the environment on behalf of the Roads Authority and the local communities. The role of the EMT will be “pro-active” with regard to impacts seeking to predict and prevent negative impact and pollution.

The Contractor will provide one full time Contractor’s Environmental, Occupational Health and Safety Expert (EOHSE) to be responsible for the implementation of all environmental mitigation measures. The EOHSE will also undertake liaison with local community leaders and ensure that the Contractor’s compliance with the requirements of the Malawi Environmental Affairs Department, the District Valuer’s Office, and other relevant authorities in connection with environmental and social considerations.

The Contractor shall prepare a Project Environmental Management Plan (PEMP) based on the headings, risks and responsibilities given in the EMP Table.

This Plan shall be particular to the works required under this Contract. The draft PEMP will be discussed, reviewed, where necessary amended and finally agreed in the EMT. The PEMP will form the principal document upon which all Environmental Monitoring will be based throughout the project.

2.0 IMPACT MITIGATION MEASURES

2.1 Landscape Preservation

(1) General

The Contractor shall exercise care to conserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the works. Except where clearing is required for permanent works, diversions or excavation operations, all trees, native shrubbery and vegetation shall be preserved and shall be protected from damage by the contractor’s construction operation and equipment. The edges of clearing and cuts through trees, shrubbery, and vegetation shall be irregularly shaped to soften the undesirable visual impact of straight lines. Movement of labour and equipment within the right-of-way and over routes provided for access to the work shall be performed in a manner to prevent damage to grazing land, crops or property.

Except as otherwise provided special reseeding or replanting will not be required under these specifications; however, on completion of the work all work areas not seeded shall be scarified and left in a condition which will facilitate natural re-vegetation provided for proper drainage and prevent erosion. All unnecessary destruction, scarring, damage or defacing reseeded or the landscape resulting from the Contractor’s operations shall be repaired, replanted reseeded or otherwise corrected as directed by the Resident Engineer and at the Contractor’s expense.

(2) Construction Roads

The location, alignment, and grade of construction roads shall be subject to approval of the Resident Engineer. When no longer required by the Contractor, construction roads shall, if required by the Resident Engineer, be restored to the original contour and made impassable to vehicular traffic. The surfaces of such diversions shall be scarified as needed to provide a condition that will facilitate natural re-vegetation provided for proper drainage and prevent erosion.

(3) Construction Facilities

The Contractor's workshops office and yard area shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent. On completion of the project all temporary buildings including concrete footings and slabs, and all construction materials and debris shall be removed from the site. The area shall be regarded, as required, so that all surfaces drain naturally, blend with natural terrain, and are left in a condition that will facilitate natural re-vegetation, provide for proper drainage and prevent erosion.

(4) Blasting Precautions

In addition to any requirements of local regulations, the contractor shall adopt precautions when using explosives that will prevent scattering rocks, stumps, or other debris outside the work area, and prevent damage to surrounding trees, shrubbery and vegetation.

2.2 Preservation of Trees and Shrubby

(1) Preservation

All trees and shrubbery which are not specifically required to be cleared or removed for construction purposes shall be protected from any damage that may be caused by the construction operations and equipment. Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting excavating, dumping, chemical damage or other operations; and the Contractor shall adequately protect such trees by use of protective barriers or other methods approved by the Resident Engineer. The removal of trees or shrubs will only be permitted after prior approval by the Resident Engineer.

The layout of the Contractor's construction facilities such as workshops, warehouse storage areas and parking areas; location of access and haul routes; and operation in borrow and spoil areas shall be planned and conducted in such a manner that all trees and shrubbery not approved for removal by the Resident Engineer shall be preserved and adequately protected from either direct or indirect damage by the Contractor's operations.

Except in emergency cases or when otherwise approved by Resident Engineer, trees shall not be used as anchorages. Where such use is approved, the trunk shall be wrapped in with a sufficient thickness of approved protective material before any rope, cable, or wire is placed.

(2) Repair or Treatment of Damage

The Contractor shall be responsible for injuries to trees and shrubs caused by his operations. The term "injury" shall include without limitation, bruising, scarring, tearing and breaking of roots, trunk or branches. All injured trees and shrubs shall be repaired or treated without delay, at the Contractor's expense. If damage occurs, the Resident Engineer will determine method of repair or treatment to be used for injured trees and shrubs as recommended by an experienced horticulturist or a licensed tree surgeon provided by and at the expense of the Contractor.

(3) Replacement

Trees or Shrubs that in the opinion of the Resident Engineer are beyond savings shall be removed and replaced early in the next planning season. The replacement shall be the same species or other approved species and of the maximum size that is practicable to plant and sustain growth in the particular environment. Replacement trees and shrubs shall be stayed, watered and maintained for a period of 1 year from the date of replacement.

2.3 Prevention of Water Pollution

(1) General

The Contractor's construction activities shall be performed by methods that will prevent entrance or accidental spillage, of solid matter, contaminants, debris, and other pollutants and wastes into streams, flowing or dry watercourses, lakes, and underground water sources, concrete, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts and thermal pollution.

Dewatering work for structure foundations or earthworks operations adjacent to or encroaching on streams or watercourses shall be conducted in a manner to prevent muddy water and eroded materials from entering the streams or watercourses by construction of intercepting ditches, bypass channels, barriers, settling ponds or by other approved means. Excavated materials or other construction materials shall not be stockpiled or deposited near or on-stream banks, lake shorelines or other watercourse perimeters where they can be washed away by high water or storm runoff or can in any way encroach upon watercourse itself.

Turbidity increases in a stream or other bodies of after that are caused by construction activities shall be strictly controlled. When necessary to perform required construction work in a stream channel, the turbidity may be increased, as approved by the Resident Engineer, for the shortest practicable period required to complete such work. This required construction work may include such work as diversion of a stream, construction or removal of cofferdams, specified earthworks in or adjacent to a stream channel, pile driving, and construction of turbidity control structures. Mechanised equipment shall not be operating in flowing water except as necessary to construct crossing or to perform the required construction.

Wastewater from aggregate processing, concrete batching, or other construction operations shall not enter streams, watercourses, or other surface waters without the use of such turbidity control methods as settling ponds, gravel-filter entrapment dikes, approved flocculating processes that are not harmful to fish, re-circulation systems for washing of aggregates or other approved methods. Any such wastewaters, discharged into surface of these specifications, settle-able material is defined as that material possible. For the purpose of these specifications settle-able material is defined as material which will settle from the water by gravity during a 1- hour quiescent detention period.

(2) Compliance with law and regulations

The Contractor shall comply with applicable laws and regulations and water quality standards concerning the control and abatement of water pollution.

2.4 Abatement of Air Pollution

The Contractor shall comply with applicable laws and regulations concerning the prevention and control of air pollution. Notwithstanding the above in conduct of construction activities and operation of equipment, the Contractor shall utilize such practicable methods and devices as are reasonably available to control prevent and otherwise minimize atmospheric emissions or discharges of air contaminants.

The emission of dust into the atmosphere shall be strictly controlled during the manufacture, handling and storage of concrete and road aggregates, and the Contractor shall use such methods and equipment as are necessary for the collection and disposal or prevention of dust during these operations. The Contractor's methods of storing and handling cement and lime

shall also include means of eliminating atmospheric discharges of dust. Equipment and vehicles that show excessive emissions of exhaust gases due to poor engine adjustments or other inefficient operating conditions. Shall not be operated until corrective repairs or adjustments are made.

Burning of materials resulting from clearing of trees and bush, combustible construction materials, and rubbish will be permitted only when atmospheric conditions for burning are considered favourable and when authorized by the Resident Engineer. In lieu of burning, such combustible materials may be disposed of by other methods as provided in Clause 2.10 hereof. Where open burning is permitted, the burn piles shall be properly constructed to minimize smoke, and in no case shall unapproved materials such as tires, plastic rubber products, asphalt products, or other materials, that create heavy black smoke or nuisance odours, be burned.

2.5 Dust Abatement

During the performance of the work required by this specifications or any other appurtenant thereto, whether on right-of-way provided by the Employer or elsewhere, the Contractor shall furnish all the labour, equipment, materials, and means required, and shall carry out proper and efficient measures wherever and as often as necessary to reduce the dust nuisance and to prevent dust which has originated from his operations from damaging crops, orchards, cultivated fields and dwellings or causing nuisance to obtain adequate control.

2.6 Noise Abatement

The Contractor shall comply with applicable National laws, orders and regulations concerning the prevention, control and abatement of excessive noise.

Blasting, the use of jackhammers, pile driving, rock crushing or other operations producing high-intensity impact noise may be not be performed during the night.

2.7 Light Abatement

The Contractor shall exercise special care to direct all stationary flood-light to shine downwards at an angle less than horizontal. These floodlights shall also be shielded so as not to be a nuisance to surrounding areas. No lighting shall include a residence in its direct beam.

The Contractor shall be responsible for correcting light problems when they occur as directed by the Resident Engineer.

2.8 Preservation of Historical & Archaeological Data

Should the Contractor or any of his employees in the performance of his contract discover evidence of possible scientific, prehistoric, or archaeological data he will notify the Resident Engineer immediately, giving the location and nature of the findings. Written confirmation shall be forwarded within 2 days. The Contractor shall exercise care so as not to damage artefacts or fossils uncovered during excavation operation and shall provide such co-operation and assistance as may be necessary to preserve the findings for removal or other disposition by the employer. The Contractor will also report his findings for the Ministry of Forestry, Fisheries and Environmental Affairs and the authority responsible for antiquities.

Where appropriate by reasons of a discovery the Resident Engineer may order delays in the time of performance, or changes in the work, or both. If such delays, or changes or both are ordered, the time of performance and contract price shall be adjusted in accordance with the applicable clause in the conditions of contract.

The Contractor shall insert this Clause in all subcontracts that involve the performance of work on the project site.

2.9 Pesticides

Pesticides include herbicides, insecticides, fungicides rodenticides, and pesticides, surface disinfectants animal repellent and insect repellent. Should the Contractor find it necessary to use pesticides in work areas of this contract, he shall submit his plan for such use to the Resident Engineer for written approval.

The Contractor shall read and comply with all labelling requirements when using pesticides.

2.10 Clean-Up and Disposal of Waste Materials

(1) Clean – Up

The Contractor shall, at all times keep the construction area, including storage areas used free from accumulation of waste material or rubbish.

All waste water and sewerage from office, residential and mobile camps shall be piped to soak pits or other disposal areas constructed in accordance with local government regulations, and where and when regulations require it the Contractor shall obtain a permit or other appropriate documentation approving the disposal methods used.

All used fuels, oils, other plant or vehicle fluids, and old tyres and tubes shall be collected to a central disposal area on a daily basis and disposed of in a manner approved by the Resident Engineer.

Servicing of plant equipment and vehicles shall whenever possible be carried out at a workshop area. This workshop area shall be equipped with secure storage areas for fuels oils and other fluids and constructed in such a way as to contain any spillage, which may occur, and similar storage where fluids can be stored securely prior to their disposal.

When servicing of plant, equipment and vehicles is carried out away from the workshop area it shall be done at locations and in such a manner as to avoid spillage and contamination of streams and other drainage courses. Any spillage shall be cleaned up by either burning in place or collecting the contaminated soils and burning them at the central disposal area, all to the satisfaction of the Resident Engineer.

Prior to the completion of the work, the Contractor shall remove from the vicinity of the work all facilities, buildings, rubbish, unused materials, concrete forms and other like material, belonging to him or used under his directions during construction.

All work areas shall be graded and left in a neat manner conforming to the natural appearance of the landscape as provided in these specifications.

Any residue deposited on the ground from washing out truck mixers, agitating trucks or any other similar concrete operations shall be buried or cleaned up in a manner acceptable to the Resident Engineer.

In the event of the Contractor's failure to perform the above work, the work may be performed by the Employer at the expense of the Contractor, and his surety or sureties shall be liable therefore.

(2) Disposal of Waste Material

(a) General

Waste materials including, but not restricted to refuse, garbage, sanitary wastes industrial wastes and oil and other petroleum products, shall be disposed of by the Contractor. Disposal of combustible materials shall be by burying, where burial of such materials is approved by the Resident Engineer by burning, where burning of approved materials is permitted; or by removal from the construction area. Disposal of non-

combustible materials shall be by burying where burial of such materials is approved by the Resident Engineer or by removal from the construction area. Waste materials removed from the construction area shall be dumped at an approved dump

(b) Disposal of Material by Burying

Only materials approved by the Resident Engineer may be buried. Burial shall be in pits and the location, size and depth of which shall be approved by the Resident Engineer. The pits shall be covered by at least 0.6 metre of earth material prior to abandonment.

(c) Disposal of Material by Burning

All materials to be burned shall be piled in designated burning areas in such a manner as will cause the least fire hazards. Burning shall be through and complete and all charred pieces remaining after burning, except for scattered small pieces, shall be removed from the construction area and disposed of as otherwise provided in this Clause.

The Contractor shall at all times, take special precautions to prevent fire from spreading beyond the piles being burned and shall be liable for any damage caused by this burning operation. The Contractor shall have available, at all times, suitable equipment and supplies for use in preventing and suppressing fires and shall be subject to all laws and regulations locally applicable for pre-suppression, suppression and prevention of fires.

(d) Disposal of Material by Removal

Material to be disposed of by removal from the construction area shall be removed from the area prior to the completion of the work under these specifications. All materials removed shall become the property of the Contractor.

Materials to be disposed of by dumping shall be hauled to an approved dump. It shall be the responsibility of the Contractor to make any arrangements of such dumping. Any fees for charges required to be paid for dumping of materials shall be paid by the Contractor and shall be included in the prices tendered in the Bill of Quantities for other work.

3.0 PROJECT ENVIRONMENTAL MANAGEMENT PLAN (PEMP)

The Contractor will be deemed to have prepared his tender upon sound environmental practice and the guidelines contained in this section together with the entire contents of the Guidelines to Environmental Impact Assessment issued by the Ministry of Forestry, Fisheries and Environmental Affairs in December 1997 and the heading applicable to this contract in the Environmental Management Plan that follows this Section; as well as Environmental and Social Management Guidelines in the Road Sector issued by the Roads Authority in March 2008.

The PEMP will be read in conjunction with and shall be deemed to include all descriptions of environmental protection and mitigation described elsewhere in the Specification, Design Standards and Conditions of Contract. The PEMP will supplement but not supersede normal Regulatory Controls from Health and Safety Inspectorates and shall be made available to all parties.

The following is a summary of the guidelines to be incorporated into the PEMP:

(a) **Specific proposals**

(i) Drainage

- Drainage and Proper installation of drainage structures

Part 2 Section 6: Scope of Works

- (ii) Soil erosion
 - Controlling and management of excavation activities
 - Installation of erosion control measures such as check dams, scour checks and impact dissipaters
 - Landscaping and re-vegetating road embankment and gravel sites
- (iii) Pollution (air, noise, water)
 - Supervision of construction traffic, including control of speed
 - Sensitisation of workforce
 - Maintenance of plant and equipment
 - Proper disposal of construction debris, proper handling, storage and disposal of oil and oil wastes, and disposal of wastewater / sewage at Contractor's /workmen's camps
- (iv) Materials sources
 - Planned, controlled and restricted access to all materials sites
 - Proper management of excavation activities
 - Landscaping, terracing where necessary, and grassing and re-vegetation of materials sites
 - Compensation of individuals/ communities as required for use of material
 - Controlled blasting of hard stone material
- (v) Water Sources
 - Consultation with communities during identification of sources
 - Management of water usage
- (vi) Deviations
 - Planning of deviations
 - Reinstating deviations (and old tracks) to original condition
- (vii) Vegetation
 - Prohibition of use of herbicides
 - Landscaping and planting all disturbed areas (pits, deviations, embankments, camps sites)
 - Planting of trees at main towns/trading centres along road for aesthetics and as pollution screens.
- (viii) Demobilisation/ Decommissioning
 - Proper removal and disposal of construction buildings and structures required for the contractors'/workmen's camp, and construction wastes including oil, solid wastes, and debris after construction works are complete, and restoration to original condition where applicable.
- (ix) Land/property and crops
 - Notification to people about non – compensation for annual crops within road reserve
 - Evaluate land/property loss due to deviations, materials sites and Contractor's camp
 - Compensation to be paid for land, crops and all property on land temporarily acquired for road construction works (camps and deviations) and for all crops

outside road reserve that are removed/destroyed for clearing of carriageway, gravel pits and deviations

- (x) Public Health and Occupational Safety
 - Provision of water supply for the workforce, and proper facilities for the disposal of solid and sanitary waste
 - Provision of protective gear to workforce
 - Provision of a first aid kit on site
- (xi) Road Safety
 - Supervision of construction traffic and management of construction activities
 - Provision of safe access/egress to work sites
 - Warning signs are erected.
- (xii) Site of cultural, historical and traditional value
 - All findings to be reported to the Resident Engineer, RA Ministry responsible for antiquities and Department of Environmental Affairs.
 - All graves are avoided.

(b) Planning and prevention

- (i) Frequency of Environmental site meetings to be chaired by the Environmental Control Officer and attended by relevant parties.
- (ii) Adoption of time scale and planning for all relevant measures
- (iii) Procedure for correction of bad practice
- (iv) Reinstatement of borrow pits

(c) Borrow areas

Borrow areas shall be reinstated in compliance with the following minimum specifications in the table below:

PIT AND QUARRY REINSTATEMENT SPECIFICATION	
1.	At the completion of operations, the Contractor shall rehabilitate used, exhausted and obsolete pits and quarries.
2.	The sides and floors of pits shall be formed to a flowing finish with side slopes not steeper than 1 vertical to 6 horizontals.
3.	During pit reshaping any material carried to the pit shall be spread uniformly over the entire shaped surface. The Contractor shall ensure that non – biodegradable and inert waste is removed and disposed of in licenced sites. The same will apply to toxic waste.
4.	Topsoil shall be spread over the shaped batters, filled areas and bare areas of the pits to a reasonable depth.
5.	Following the spreading of topsoil, the entire pit shall be ripped along the contours to a depth of 500mm and at not more than 500mm spacing.

REVEGETATION SPECIFICATION	
1.	Planting and direct seeding shall be carried out after the topsoil has been placed, shaped and prepared for planting and seeding operations
2.	The Contractor shall prepare a plant and seed species list that is representative of the native vegetation (trees, and understorey species) in adjacent areas and the list is to be included in the Environmental Management Plan.
3.	The plant and seed list shall describe the plant size and spacing of all plants, the quantities by seed species in a seed mix and the seeding rate (kg per hectare) to be used in any revegetation of the area to be rehabilitated.

REVEGETATION SPECIFICATION	
4.	The Contractor shall supply and hand-plant tube stock in good condition using the species and spacing chosen in the plant list.
5.	The Contractor shall supply and direct seed the areas to be seeded using the seed species mix and seeding rate (kg per hectare) as described in the plant list.
6.	All planting, seeding and or weed control operations shall be undertaken in accordance with basic principles of REVEGETATION AND LANDSCAPING.
7.	The completion criteria for revegetation shall be in accordance with the Environmental Management Plan.

4.0 ENVIRONMENTAL TRAINING

The ECO will be responsible for organising the environmental training of all the Engineer’s and Contractor’s staff. It is suggested that this training is coupled with the safety training that the Contractor should include in his own site management plan. The Contractor shall ensure that the Resident Engineer is informed of all staff that will work on the site and their general responsibilities and shall make sure that they are available to attend suitable briefing sessions arranged by the ECO on the environmental mitigation measures that are to be in place on the site.

The Contractor shall provide the ECO with a suitable room for the briefing and such administrative support and facilities as shall be ordered by the ECO.

5.0 MEDICAL AND HIV/AIDS PREVENTION PROGRAMMES

To assist in the general health and well-being of both all the site staff and the residents in the community local to the works, the Roads Authority will organize and coordinate appropriate awareness training as well as health screening (other than accident prevention and medical aid facilities provided by the Contractor).

The Contractor shall ensure that the Resident Engineer is informed when any new staff commence work on the site such that health and HIV awareness and counselling can be provided either in group sessions or on an individual basis. The Contractor shall ensure that staff are available for briefing by the RA’s staff and shall make available suitable rooms, administrative support and provide any facilities or supplies against an order from the RA. The Contractor shall ensure that condoms provided as part of the HIV/STD control programme are readily available to all staff.

The RA will also arrange for the health screening of site workers in local medical facilities and the Contractor shall cooperate fully in these programmes by making staff available. The Contractor shall ensure that the Resident Engineer and local medical officials are informed promptly of any workers suffering from the symptoms of infectious disease so appropriate help and treatment can be arranged promptly.

6.0 ROAD SAFETY TRAINING

The RA will be arranging road safety training and awareness sessions in local schools and community centres. The Contractor will assist the RA when requested with administrative support and where ordered the provision of supplies for these courses and programmes.

7.0 RESPONSIBLE AUTHORITIES

The Contractor is advised that the following authorities have an interest in the environmental and social protective measures associated with this road construction project.
 Environmental Affairs Department
 Public Health Department
 Health and Safety Office
 Each District Assembly of Districts through which the road traverses.

8.0 SITE CLEARANCE

No trees are to be cut or removed unless required to be cleared or removed for construction works. Where there are branches overhanging roads or traffic diversion routes the Contractor shall agree with the SR the cutting back necessary to provide for clear vehicle access. The Branch cutting shall then be carried carefully using saws to leave a clean-cut face with no damages or snags.

9.1.9 FINISHING OF VERGES AND OTHER WORKS AREA

Verges, routes of diversion roads, site camps and all other areas where the Contractor's work has heavily compacted the soil shall be loosened, spread with a thin layer of grass plant rich soil and firmed by foot or a light roller so as to encourage the re-growth of natural vegetation.

9.1.10 WATER POLLUTION

The Contractor shall observe the requirements to avoid the pollution of watercourses and ground water. Sanitary facilities for all site workers convenient to the working sites shall be provided to enable environmentally sensitive disposal of the waste. The storage of bitumen fuel and oil for the works operations shall be arranged in working sites, refuelling of all plant and equipment and servicing practices shall be arranged to prevent the uncontrolled spilling of any oil-based products.

Mitigation measures shall include drip trays, working on paved surfaces with waste collection arrangements and the provision of oil absorbing material for spills that can be subsequently disposed safely by burning.

Environmental and Social Management Plan Table

Environmental Social Impact	Proposed Mitigation and Aspect for Monitoring	Responsibility for intervention and monitoring during design, construction and defects liability period	Responsibility for mitigation monitoring and/or maintenance after defects liability period	Monitoring means (c) = Construction (o) = operation	Recommended frequency of monitoring
ENVIRONMENTAL MANAGEMENT					

Changes in hydrology impeded drainage	<ul style="list-style-type: none"> • Install drainage structure properly • Efficiency of drainage structures 	Design consultant Supervising Engineer Supervising Engineer	Contractor District Works Offices	Inspection (o) routine maintenance and road condition survey	(c) during construction and on completion of each structure
Soil erosion	<ul style="list-style-type: none"> • Control earthworks • Install drainage structures properly • Install erosion control measures • Landscape and re-vegetate gravel sites • Management of excavation activities • Impact on erosion (on road, off road, embankments, riverbanks, etc) • Efficiency of erosion control measures • Landscape and grass road embankment 	Supervising Engineer and Contractor Designer /RA District Works Offices RA	Supervising Engineer and Contractor	(c) inspection (o) routine maintenance and road condition survey (c) inspection (o) routine maintenance and road condition survey	(c) daily erosion control measures during construction and on completion of measures (o) once in 6 months (c) once a month

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Air pollution	<ul style="list-style-type: none"> • Control speed of construction vehicles • Prohibit idling of vehicles • Sensitive workforce • Maintenance of plant and equipment • Plant trees in towns as pollution screens • Impose speed limits for all vehicles, especially at towns and villages • sensitize motorists/road users 	Supervising Engineer and Contractor Designer/ RA	TA \Health and Environment committees Traffic police	(c) inspection/ observation (o) observation	(c) Daily /random (o) random
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Noise pollution	<ul style="list-style-type: none"> • Sensitize workforce • Supervise construction traffic • Sensitize drivers of construction vehicles • Maintain plant and equipment 	Supervising Engineer and Contractor	TA Health and environment Committees Traffic police	(c) inspection/ observation (o) observation	(a) Daily /random (o) random
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	<ul style="list-style-type: none"> • Impose speed limits for all vehicles, especially at towns and villages • Sensitize motorists /road users 				
Water pollution	<ul style="list-style-type: none"> • Incorporate erosion control measures • Works on culverts to be done in the dry season • Proper disposal of construction debris • Proper handling, storage and disposal of oil and oil wastes • Proper disposal of wastewater /sewerage at Contractor's workmen's camps 	Designer/ RA Supervising Engineer and Constructor	Contractor	(c) inspection	(c) daily
Oil pollution	<ul style="list-style-type: none"> • Construct parking bays at larger trading centres for heavy vehicles. • Proper storage, handling and 	Design Consultant Supervising Engineer and Contractor	Contractor	(c) Inspection (o) routine maintenance	(c) during construction and on completion (o) once in 6 months

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	<p>disposal of oil and oil wastes</p> <ul style="list-style-type: none"> • Maintain plant and equipment • Maintenance of construction vehicles should be carried out in the Contractor's camp 	Supervising Engineer and Contractor			(c) daily
Gravel sites	<ul style="list-style-type: none"> • Inform people living at/near the sites that the pits have been selected for exploitation. • Plan access to gravel sites • Control and restrict access to gravel sites (e.g. by fencing) • Control earthworks • Proper management of excavation activities • Landscape terrace if necessary, and grass sites. Replace trees that were removed during excavation • Discourage pits being made into water pans after construction 	<p>Supervising engineer and Contractor</p> <p>Supervising Engineer and Contractor</p> <p>Contractor</p> <p>Supervising Engineer</p>	District Works offices RA	<p>(c) meeting</p> <p>(c) Inspection</p> <p>(c) Payment records</p> <p>(o) Inspection</p>	<p>(c) Once immediately after selection of sites</p> <p>(c) daily</p> <p>(o) once before excavation begins and at specified periods as agreed thereafter</p> <p>(c) once in 2 months</p> <p>(o) once in 6 months</p>

	<p>Rehabilitate old unused gravel pits</p> <ul style="list-style-type: none"> • Compensate individuals/ communities as required for use of material • Progress of rehabilitated gravel sites (use of site, established vegetation) 				
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Hard stone sources	<ul style="list-style-type: none"> • Inform communities living at/near the sites that the sites have been selected for exploitation. • Plan access to 	<p>Supervising Engineer and Contractor</p> <p>Supervising Engineer and Contractor</p>		<p>(c) meeting</p> <p>(c) inspection</p>	<p>(c) Once immediately after selection of sites</p> <p>(c) daily</p>
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Part 2 Section 6: Scope of Works

	<p>hard stone sites</p> <ul style="list-style-type: none"> • Control and restrict access to hard stone sites (e.g. by fencing) • Control blasting • Proper management of exploitation activities • Landscape site after exploitation and grass sites. Replace trees or vegetation that were removed during excavation • Compensate individuals / communities as required for use of material 	Contractor		(c) payments records	(o) once before excavation begins and at specified periods as agreed thereafter
Sand sources	<ul style="list-style-type: none"> • Take sand from beds of large rivers only • Extraction to be done during low flow 	Supervising Engineer and Contractor	n/a	(c) inspection	(c) during mining
Water sources	<ul style="list-style-type: none"> • Consult with communities during identification of sources • Management of water usage 	Designer /RA	n/a	(c) meetings, inspection, check plans and schedule	(c) during rains during abstraction at source and at random
Deviations	<ul style="list-style-type: none"> • Plans deviations • Adhere to road reserve if possible • Obtain permission from 	Supervising Engineer and Contractor	Contractor	(c) check plans inspections	(o) daily when deviations are in use
	<p>inhabitant/community if deviation goes beyond road reserve</p> <ul style="list-style-type: none"> • Re instate deviations (and old tracks) to original condition • Pay compensation for crops/property removed/ destroyed by deviations • Monitor rehabilitation of deviations 	Contractor	District Works Offices RA	(o) Payment records	<p>(c) once before constructing deviations</p> <p>(o) Once in 6 months</p>
Vegetation / flora / forests	<ul style="list-style-type: none"> • Control clearing • Prohibit clearing using herbicides • Replant areas 	Supervising Engineer and Contractor	Contractor	(c) inspection	(c) daily

Part 2 Section 6: Scope of Works

	<p>where vegetation is unnecessarily removed</p> <ul style="list-style-type: none"> Landscaping and planting all disturbed areas (pits, deviations embankments, camp sites) Plant trees at main towns/trading centres along road 	TA Health and Environment Committees			
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	<ul style="list-style-type: none"> Planting and grassing should be done just before the rains Discourage use of firewood/charcoal by providing alternatives Care for tree/plants 		TA Health and Environment Committees	(c) observation (o) observation	(c) weekly (o) Random
Workmanship	<ul style="list-style-type: none"> locate camp in terminal town provide water supply provide proper sanitation facilities on site Provide proper solid waste disposal facilities Have central canteen facilities Discourage use of firewood/charcoal by providing alternatives Manage water use in camps 	Supervising Engineer and Contractor	Contractor	(c) inspection	(c) daily

Visual Enlargement	<ul style="list-style-type: none"> Landscaping and planting of deviations, gravel sites and camp Plant trees at terminal towns and trading centres Care for plants and trees 	Designer /RA TA health and Environment committees	Contractor TA Health and Environment Committees	(c) inspection (c) observation (o) observation	(c) daily / random (c) Weekly (o) random
Construction waste	<ul style="list-style-type: none"> Proper disposal of construction wastes including oil, solid wastes and debris 	Supervising Engineer and Contractor	Contractor	(c) inspection	(c) weekly
Demobilisation	<ul style="list-style-type: none"> Clean up site Remove all debris Remove to original condition 	Supervising Engineer and Contractor	Contractor	(c) inspection and certificate of completion	(c) on completion of road construction works

SOCIAL MITIGATION

Part 2 Section 6: Scope of Works

Settlement	<ul style="list-style-type: none"> Plan for increased population and subsequent expansion of terminal towns and trading centres Conduct STD/AIDS awareness campaign Plan for local security 	District Physical Planning Department Supervising Engineer TAs	District Physical Planning Department	(c) meetings, Barraza's (o) reports (c) inspection records (c) meetings, deployment of local police	(c) once during construction (o) annually (c) continuous (c) continuous (o) continuous
Loss of Land /property	<ul style="list-style-type: none"> Identify project affected people Notify people about non-compensation for annual crops within road reserve Evaluate land/property loss due to deviations, materials sites and contractor's camp Compensation to be paid for land and all property on land to temporally acquired for road construction works 	RA Contractor	n/a	(c) inspection (c) notices, meetings (c) inspection (c) payments records	(c) Once before construction commences (c) compensation paid once after assessment of loss before construction
Loss of crops	<ul style="list-style-type: none"> Limits clearing of crops as much as possible Pay compensation for 	RA Supervising Engineer and Contractor	Supervising Engineer and Contractor	(c) inspector (c) payment records	(c) Daily (c) Once after assessment of
	<ul style="list-style-type: none"> all crops outside road reserve that are removed/destroyed for clearing of carriage way, gravel pits and deviations Compensation to be paid for perennial crops within road reserve 	RA			loss before construction
Employment	Recruit local people, of which at least 25% should be women	Contractor	n/a	(o) certificate of employment	(o) quarterly

Part 2 Section 6: Scope of Works

Public Health and Occupational safety	<ul style="list-style-type: none"> • Reduce/minimize pollution as above • Provide water supply at camps • Proper disposal of solid and sanitary waste at camps • Design and locate pit latrines prudently • Have communal ablution facilities • Conduct STD/AIDS, awareness campaign and distribute condoms • Provide potable water for workforce • Provision of protective gear to workforce • First Aid Kit on site • Appoint Health Safety and Environment officer on site • Contractor should have workmen's compensation cover • Monitor impact on public health (incidence of malaria, respiratory diseases such as Covid-19, STDs HIV/AIDS) 	Supervising Engineer and Contractor RA/Ministry of health	Contractor RA Ministry of Health	(c) Inspection (o) Independent study	(c) daily (o) once in 6 months
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	<ul style="list-style-type: none"> • Conduct Covid-19 awareness campaign and provide prevention measures. 				
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Part 2 Section 6: Scope of Works

Disturbance to public	<ul style="list-style-type: none"> Minimise pollution as above Erect information and warning signs Control construction activities Construct special parking bay at terminal towns for trucks/heavy vehicles 	<p>Supervising Engineer</p> <p>Supervising Engineer</p> <p>Supervising Engineer and Contractor Design Consultant</p>	<p>Contractor District Works Offices</p>	<p>(c) Inspection</p> <p>(c) Inspection</p> <p>(c) Inspection</p> <p>(o) routines maintenance</p>	<p>(c)daily</p> <p>(c) when affected</p> <p>(c)daily</p> <p>(c) during construction and on completion</p> <p>(o) once in 6 months</p>
Road Safety	<ul style="list-style-type: none"> Install speed bumps near school and trading centres Supervise construction traffic Ensure safe access/egress to work sites Erect warning signs Construct shoulders which can be used by pedestrians and non motorized traffic Construct special parking bay at large trading centres for trucks/heavy vehicles Impact on road safety (number of accidents) 	<p>Design Engineer</p> <p>Supervising Engineer and Contractor</p> <p>Design Consultant</p>	<p>Supervising Engineer and Contractor</p> <p>District Works Offices</p> <p>District Works offices</p> <p>RA</p>	<p>(o) (c) Inspection</p> <p>(c) Inspection</p> <p>(o) routines maintenance</p> <p>(c) Inspection</p> <p>(o) routine maintenance</p> <p>(o) Police report</p>	<p>(c)daily</p> <p>(c) when designed</p> <p>(o) once in 6 months</p>
Socio-economic status	<ul style="list-style-type: none"> Changes in income level Change in health status 	n/a	RA	(o) Independent Study	(o) once in 5 years

	<ul style="list-style-type: none"> Changes in education levels. Changes in gender equality 				
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Part 2 Section 6: Scope of Works

Economic activity in project area	<ul style="list-style-type: none">• Changes in agricultural production and marketing• Changes in livestock production and marketing	n/a	District Agricultural Officers/RA	(o) Independent study	(o) once in 5 years
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Drawings

Tender Drawings are bound separately as Volume II of the Tender Documents.

Supplementary Information

The results of the pavement and materials investigation that was undertaken during the design stage of this project are given in the Materials Report. This report, is marked "FOR INFORMATION ONLY AND WILL NOT FORM PART OF THE CONTRACT".

The report only represents the investigations and findings of the consultant appointed to undertake the detailed design and it is the Bidder's responsibility for identifying all sources of construction materials and for ensuring that such materials comply with specification requirements.

SECTION 7: GENERAL CONDITIONS OF CONTRACT

SECTION 7: GENERAL CONDITIONS OF CONTRACT

The applicable conditions of contract shall be the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer, Second Edition, 2017” published by the International Federation of Consulting Engineers (FIDIC). The address and contact details of the Federation is as follows:

International Federation of Consulting Engineers (FIDIC)
World Trade Centre
P.O. Box 311
1215 Geneva 15
SWITZERLAND
Telephone: +41227994905
Facsimile: +41227994901
Email: fidic.pub@fidic.org
Website: <http://www.fidic.org>

Section VIII. Particular Conditions of Contract

Section 8: Particular Condition (PC) The following Particular Conditions shall supplement the GC. Whenever there is a conflict, the provisions herein shall prevail over those in the GC.

NOTE: The Clauses of the Particular Conditions of Contract are numbered “PCC” followed in each case by the number of the relevant Clause or Sub-clause in the General Conditions of Contract and its relevant heading, or where new and unrelated Conditions of Contract are introduced by numbers following the last Clause number in the General Conditions of Contract and appropriate headings.

Part A - Contract Data

Conditions	Sub-Clause	Data
Employer’s name	1.1.31	The Government of Malawi represented by Roads Authority
Engineer’s name	1.1.35	TBA
Section	1.1.73	N/A
Time for Completion	1.1.84	540 days
Notices and other Communications	1.3 (a) (ii)	Electronic transmission systems include email and file sharing web sites. Electronic transmission of documents shall be followed by a hard copy
Notices and other Communications	1.3 (d)	The address for the Employer is: Chief Executive Officer Roads Authority of Malawi Private Bag B346 Lilongwe MALAWI Tel : +265 (0) 888 209 348/349 Fax: +265 (0) 1 750 307
Notices and other Communications	1.3 (d)	The address for the Contractor is:
Law and Language	1.4	The Contract shall be governed by the Laws of Republic of Malawi. The ruling language of the contract shall be English. The Language for communication shall be English
Care and supply of documents	1.8	The additional paper copies shall be One (1) .
Right of access to the Site	2.1	No later than the Commencement Date
Engineer’s Duties and Authority	3.2	The Engineer shall obtain the specific approval of the Employer before taking action under the following Clauses: a) Clause 5.1 Subcontractors b) Clause 8.5 Extension of Time for Completion c) Clause 8.9 Employer’s Suspension d) Clause 10.2: Taking Over Parts

Conditions	Sub-Clause	Data
		e) Clause 13.3: Variation Procedure f) Clause 20.1: Claims and Clause 20.2 Claims for Payment and/or EOT
Performance Security	4.2	The performance security will be in the form of a Bank Guarantee in the amount(s) of Ten (10) percent of the Accepted Contract Amount and in the same currency (ies) of the Accepted Contract Amount.
Sub-Contractors	5.1 (a)	30 percent
Normal working hours	6.5	Monday to Saturday 7:30am – 17:00 hours with exception of Gazetted Public Holidays at a maximum of 45 hours in a week.
Staff Removal	6.9	Insert after 6.9(f); (g) acts in a manner that breaches the Code of Conduct (ES) (e.g. sexual harassment, gender-based violence, illicit activity or crime).”
Commencement	8.1	ES Management Strategies and Implementation Plans The following is inserted at the end of 8.1: “Notwithstanding the Commencement Date as specified in this Sub-Clause, the Contractor shall not proceed implementing the works 28 days after the commencement date unless the Engineer is satisfied that appropriate measures are in place to address environmental and social risks and impacts. At a minimum, the Contractor shall apply the Management Strategies and Implementation Plans and Code of Conduct, submitted as part of the Bid and agreed as part of the Contract. The Contractor shall submit, on a continuing basis, for the Engineer’s prior approval, such supplementary Management Strategies and Implementation Plans as are necessary to manage the ES risks and impacts of ongoing works. These Management Strategies and Implementation Plans collectively comprise the Contractor’s Environmental and Social Management Plan (C-ESMP). The C-ESMP shall be approved prior to the commencement of construction activities (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved C-ESMP shall be reviewed, periodically (but not less than every six (6) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated C-ESMP shall be subject to prior approval by the Engineer.”
Programme	8.3(d) (iv)	Insert at end of GC 8.3(d)(iii): (iv) “In addition to the progress report, the Contractor shall also provide a report on the Environmental and Social (ES) metrics set out in Part C and D. In addition to Part C and D reports, the Contractor shall also provide immediate notification to the Engineer of incidents in the

Conditions	Sub-Clause	Data
		<p>following categories. Full details of such incidents shall be provided to the Engineer within the timeframe agreed with the Project Manager.</p> <p>(a) confirmed or likely violation of any law or international agreement;</p> <p>(b) any fatality or serious (lost time) injury;</p> <p>(c) significant adverse effects or damage to private property (e.g. vehicle accident, damage from fly rock, working beyond the boundary)</p> <p>(d) major pollution of drinking water aquifer or damage or destruction of rare or endangered habitat (including protected areas) or species; or</p> <p>(e) any allegation of sexual harassment or sexual misbehavior, child abuse, defilement, or other violations involving children.</p>
Delay damages for the Works	8.8 & 14.15(c)	0.05% of the Contract Price per day.
Maximum amount of delay damages	8.8	5% of the final Contract Price.
Defects Notification Period	11.3	365 days.
Provisional Sums	13.4.(b)(ii)	A percentage for adjustment of Provisional Sums is 7.5 %
Adjustments for Changes in Cost	13.7	Not applicable.
Advance Payment	14.2	The total advance payment shall be 20% Percentage of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable, subject to acceptance of an Advance Payment Guarantee.
Percentage of Retention	14.3	5%
Limit of Retention Money	14.3	2.5% of the Accepted Contract Amount
Plant and Materials intended for the works	14.5(b)(i)	If Sub-Clause 14.5 applies: Plant and Materials for payment when shipped. N/A .
	14.5(c)(i)	Plant and Materials for payment when delivered to the Site. N/A
Minimum Amount of Interim Payment Certificates	14.6.2	5 % of the Accepted Contract Amount.
Payment	14.7 (a)	42 days
Payment	14.7 (b) (ii)	42 days
Publishing source of commercial interest rates for financial charges in case of	14.8	Prime Lending Rate of the Reserve Bank of Malawi + 1% or if not available the Inter Bank offered rate and shall be calculated at simple interest

Conditions	Sub-Clause	Data
delayed payment		
Currencies of payment	14.15	The Contract Price shall be paid in Malawi Kwacha
Insurance to be provided by the Contractor	19.2	The permitted deductible limits shall be: (a) The minimum cover for insurance of equipment is MK450 million
Insurance to be provided by the Contractor	19.2.3 (a)	1.2 times the value of the Works designed
Insurance to be provided by the Contractor	19.2.4	(a) The minimum cover for insurance of property is: MK450 million (b) The minimum cover for personal injury or death insurance is MK300 million
Constitution of the DAAB	21.1	The DAAB shall comprise of one suitably qualified person. The sole member shall be selected from a list of qualified arbitrators from the Malawi Engineering Institution
Failure to appoint DAAB member(s)	21.2	The president of the Malawi Engineering Institution

Section 8: Particular Conditions

Part B - Special Provisions

GCC Clause Reference or new SCC Clause No	Special Conditions
GCC 1.4	<p>Law and Language</p> <p>Add the following new sub-paragraph:</p> <p>The Contractor shall keep himself informed of all the latest laws of Malawi, regulations and bylaws promulgated by the government or any other statutory authority, which may have relevance to the execution of the Contract.</p>
GCC 1.5	<p>Delete the sequence of the documents presented in Clause GCC 1.5 in its entirety and replace with the following sequence:</p> <ul style="list-style-type: none"> (a) The Contract Agreement (if completed) (b) Minutes of Contract Negotiations (if any) (c) the Letter of Acceptance (d) the Letter of Tender (e) the Particular Conditions part A- Contract Data (f) the Particular Conditions part B- Special Provisions (g) these General Conditions (h) the Particular Specifications (i) the Standard Specifications (SATCC 1998, reprinted 2001) (j) the Drawings and (k) the priced Bill of Quantities (l) the completed Qualification Information Forms and any other documents forming part of the Contract.
GCC 2.1	<p>Right of Access to the Site</p> <p>Add the following after the first paragraph:</p> <p>For this Contract, the Employer shall, on the Commencement Date, give the Contractor right of access to the Site and possession of so much of the Site as may be required to enable the Contractor to commence and proceed with the construction of the Works.</p>
GCC3.2	<p>Add the following to this Clause:</p> <p>The Engineer shall obtain the specific approval of the Employer before taking action under the following clauses</p> <ul style="list-style-type: none"> (i) Clause GCC 5: Subcontracting (ii) Clause GCC 8.5: Extension of time for Completion (iii) Clause GCC 10: Employer's Taking Over (iv) Clauses GCC 13: Variations and adjustments (v) Clause GCC 20: Employer's and Contractor's Claims <p>Notwithstanding the obligation as set out above to obtain approval, if in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the works or of adjoining property, the Engineer may without relieving the Contractor of any of his duties and responsibilities under the Contract instruct the Contractor to execute all work or to do all things as may, in the opinion of the Engineer be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of the approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the contract price in respect of such instruction if and as may be relevant and shall notify the Contractor accordingly, with a copy to the Employer.</p>
GCC 4.1	<p>The following is inserted after the paragraph "The Contractor shall, whenever required</p>

	<p>by the Engineer...”:</p> <p>“The Contractor shall not proceed with implementation of works 28 days after commencement unless the Engineer gives a Notice of No-objection to the Contractor, a Notice that shall not be unreasonably delayed, to the measures the Contractor proposes to manage the environmental and social risks and impacts, which at a minimum shall include applying the Management Strategies and Implementation Plans (MSIPs) and Code of Conduct for Contractor’s Personnel submitted as part of the Bid and agreed as part of the Contract.</p> <p>The Contractor shall submit, to the Engineer for Review and approval, any additional MSIPs as are necessary to manage the ES risks and impacts of ongoing Works (e.g. excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). These MSIPs collectively comprise the Contractor’s Environmental and Social Management Plan (C-ESMP). The Contractor shall review the C-ES, periodically (but not less than every six (6) months), and update it as required to ensure that it contains measures appropriate to the Works. The updated C-ESMP shall be submitted to the Engineer for Review</p> <p>The C-ESMP and the Contractor’s Code of Conduct shall be included as Contractor’s Documents. The procedures for Review of the C-ESMP and its updates shall be as described in Sub-Clause 4.4.1 <i>[Preparation and Review]</i>.”</p>
<p>GCC 4.2.1</p>	<p>Performance Security</p> <p>Delete wording of the first Paragraph and replace with the following:</p> <p>The Contractor shall deliver the Performance Security to the Employer within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Engineer. The Performance Security shall be issued by a bank registered in the Republic of Malawi or licensed to do business in that country.</p> <p>The Performance Security shall be presented in accordance with the Form of Performance Security included in these Tender Documents.</p> <p>The Performance Security shall be in the form of a Bank Guarantee issued by:</p> <ul style="list-style-type: none"> (a) A bank located in Malawi or (b) A foreign bank through a correspondent bank located in Malawi. <p>The Performance Security for this Contract shall be ten percent (10%) of the accepted contract amount.</p>
<p>GCC 4.8</p>	<p>Safety Procedures</p> <p>Add the following item:</p> <p>(h) Provide, install and maintain adequate personnel and measures to ensure the safety of road users during construction of the works. In particular, the site must be left in a safe, trafficable condition with adequate traffic control measures outside normal working hours.</p>
<p>GCC 4.10</p>	<p>Use of Site Data</p> <p>Add the following at the end of the first Paragraph:</p> <p>The information issued by the Employer is for information only and shall neither form part of the Contract nor relieve the Contractor of his obligations under the Contract.</p>
<p>GCC 4.17</p>	<p>Contractor’s Equipment</p> <p>Add the following at the end of the Paragraph:</p>

	<p>The Employer is not liable for compensation in regards to any construction equipment or material brought on the site which was not fully used during the construction and maintenance of the works, and the Employer cannot be held liable for the loss or damage of any of the said equipment or material brought on the site by the Contractor or which was used during the execution of this Contract.</p>
<p>GCC 4.18</p>	<p>Protection of the Environment</p> <p>Add the following Paragraph at the end:</p> <p>The Contractor shall adhere at all times to the Environmental and Social Management Plan contained in the Particular Specifications. The Contractor will be held accountable for any costs arising from his negligence with regard to the environment. The Employer reserves the right to recover any such costs by deducting the relevant amount from interim payment certificates.</p>
<p>GCC 4.21</p>	<p>Security of the Site</p> <p>Add to Clause 4.21 the following item:</p> <p>(c) The Contractor shall note that the site is a public road and therefore the public is entitled to the continued use of the road. Notwithstanding, the Contractor is still responsible for ensuring the safe passage of the public through the site and for preventing unauthorised entry to areas where work is in progress.</p>
<p>GCC 4.22</p>	<p>Contractor's Operations on Site</p> <p>Add the following after the first sentence of the first Paragraph:</p> <p>For the additional land required, the Contractor shall arrange with the owners or tenants the necessary rent and cost in connection therewith. The Contractor shall be responsible for all damage to such land and property and shall indemnify the Employer and hold him harmless in respect of all claims, demand proceedings, damage costs including attorney's and client costs charges and expenses arising in respect thereof. The Contractor shall furnish the Engineer for his approval, copies of letters of consent from owners of additional land acquired.</p>
<p>Sub- Clause 4.24 Code of Conduct</p>	<p>Add the following sub-clause</p> <p>The Contractor shall have a Code of Conduct for the Contractor's Personnel.</p> <p>The Contractor shall take all necessary measures to ensure that each Contractor's Personnel is made aware of the Code of Conduct including specific behaviors that are prohibited, and understands the consequences of engaging in such prohibited behaviors.</p> <p>These measures include providing instructions and documentation that can be understood by the Contractor's Personnel and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate.</p> <p>The Contractor shall also ensure that the Code of Conduct is visibly displayed in multiple locations on the Site and any other place where the Works will be carried out, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Contractor's Personnel, Employer's Personnel and the local community.</p> <p>The Contractor's Management Strategy and Implementation Plans shall</p>

	<p>include appropriate processes for the Contractor to verify compliance with these obligations.</p>
<p>GCC 5</p>	<p>Subcontracting Add the following to Clause GCC 5: It is an explicit requirement of the Contract that ten percent (30%) of the total value of the works, excluding escalation, contingencies, provisional sums and VAT, be subcontracted to Malawian Local Contractors. These Small to medium Size Malawian Business Enterprises are solely and wholly owned by one or more Malawians Persons and whose management and daily business operations are under the control of, and performed by one or more Malawian persons who effectively own and control it. They shall be functioning as the subcontractor to the main Contractor, which assigns Commercially Useful Work Item to be executed under a subcontract agreement to them.</p> <p>Commercially Useful Work is the performance of real and actual work or provision of the services, in the discharge of any contractual obligation which shall include but not be limited to the performance of a distinct element of the work, which the business has the skills and expertise to undertake, as well as the responsibility for managing and supervising that function.</p> <p>The Contractor shall prepare and attach to his payment certificates in a form provided by the Employer:</p> <ul style="list-style-type: none"> (a) A brief report which describes the Commercially Useful Work Items performed by the Malawian Local Contractors in the execution of the Contract, both over the interim period and on cumulative basis; (b) A schedule reflecting the estimated total value of goods to be supplied and work and services to be performed, the cumulative value of goods supplied and/or performed, over the period for which the payment is claimed in respect of each and every Malawian Local Contractor. <p>The acceptance of the Main Contractor bid shall not be construed as approval of all or any of the listed Malawian Local Contractors in Form 4.6 of the Bidding Forms (Section 4) Should any or all the Malawian Local Contractors not be approved as a Sub contractor subsequent to the acceptance of the Tender, this shall in no way invalidate this tender and tendered units rates for various items of works which shall remain final and binding even in the event of Malawian Local Contractor not approved by the Engineer.</p> <p>Should random inspection conducted by the Project Manager on the Main Contractor's activities indicate that Main Contractor is not adhering to the requirements of this Specification; this may constitute sufficient grounds for cancellation of the contract depending on the seriousness of such non-conformance.</p> <p>The Contractor shall enter into a written Sub contract with each Specialist and Malawian Local Contractor and submit to the Project Manager and Employer details of all such sub Contract agreements which shall comply with all terms and conditions of this contract.</p>
<p>GCC 5.2</p>	<p>Nominated Subcontractors</p> <p>Add the following new Sub-Clause:</p> <p>PCC 5.2.5 Employer's assumption of subcontract</p> <p>If the Contract shall have been terminated in terms of Clause 15, the Employer shall have the right, by written notice given to any Nominated Subcontractor no later than 28 days after the said cancellation, to convert the subcontract concerned to a direct contract between the Employer and the Subcontractor provided that:</p>

	<p>(a) the terms of the said direct contract shall mutatis mutandis be those of the subcontract concerned and</p> <p>(b) The Employer shall have the right notwithstanding any breach of the subcontract by the Contractor subject to his forthwith paying to the Subcontractor all amounts then owing to the Subcontractor by the Contractor and perform any obligation, which the Contractor has failed to perform.</p>
<p>GCC 6.1</p>	<p>Engagement of staff and Labour</p> <p>Add the following at the end of the paragraph:</p> <p>The Contractor shall enter into written contract with all his personnel detailing their engagement terms and conditions.</p>
<p>GCC 6.6</p>	<p>Facilities for Staff and Labour</p> <p>Add the following sentence at the end of the first Paragraph:</p> <p>The facilities in particular for housing and ablutions shall be decent with lockable doors and cubicles and shall have privacy and be acceptable to the Engineer.</p>
<p>Sub- Clause 6.9 Contractor's Personnel</p>	<p>The Sub-Clause is replaced with:</p> <p>“The Contractor’s Personnel (including Key Personnel, if any) shall be appropriately qualified, skilled, experienced and competent in their respective trades or occupations.</p> <p>The Engineer may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor’s Representative and Key Personnel (if any), who:</p> <ul style="list-style-type: none"> (a) persists in any misconduct or lack of care; (b) carries out duties incompetently or negligently; (c) fails to comply with any provision of the Contract; (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment; (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; (f) has been recruited from the Employer’s Personnel in breach of Sub-Clause 6.3 [Recruitment of Persons]; (g) undertakes behaviour which breaches the Code of Conduct for Contractor’s Personnel (ES). <p>If appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience. In the case of replacement of the Contractor’s Representative, Sub-Clause 4.3 [<i>Contractor’s Representative</i>] shall apply. In the case of replacement of Key Personnel (if any), Sub-Clause 6.12 [<i>Key Personnel</i>] shall apply.</p> <p>Subject to the requirements in Sub-Clause 4.3 [<i>Contractor’s Representative</i>] and 6.12 [<i>Key Personnel</i>], and notwithstanding any requirement from the Engineer to remove or cause to remove any person, the Contractor shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from the Site or other places where the Works are being carried out,</p>

	any Contractor's Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above."
GCC 6.10	<p>Contractors Records</p> <p>Add the following to Sub-Clause 6.10:</p> <p>The information required by the Engineer in respect of the Contractor's Personnel shall be submitted three working days before each monthly site meeting.</p> <p>The information required by the Engineer in respect of the Contractor's Equipment shall also be presented three working days before each monthly site meeting, and shall include details of plant availability, reasons for downtime, source of plant whether hired or owned, and manufacturer's ratings.</p>
GCC 6.12	<p>Add the following to Sub-Clause 6.12</p> <p>Foreign Personnel</p> <p>The Contractor may import any personnel who are necessary for the execution of the Works, provided that these personnel are in possession of the required residence visas and work permits. The Contractor shall be responsible for the return to the place where they were recruited or to their domicile of imported Contractor's Personnel. In the event of the death in Malawi of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.</p> <p>No employee of the Contractor originating from any other country shall enter Malawian territory without a work and residence permit, which is obtainable from the Ministry of Home Affairs.</p> <p>The Contractor shall note that he is responsible for the procurement of work and residence permits for his staff. Ample time shall be allowed for the processing of the applications by the Ministry of Home Affairs. The Employer will not honour any claim resulting from the late issuance of work and residence permits. The legal spouse and children of the Contractor's personnel shall not be entitled to employment themselves, unless the necessary work permits have been obtained from the relevant authorities</p>
	Add the Following New sub clauses:
GCC 6.13	<p>Employment of Local Personnel</p> <p>It is an explicit Particular Condition of this contract that no unskilled labour may be employed on the works unless he or she is a Malawian citizen. It is a further condition that no skilled or semi-skilled non-Malawian person may be employed on the works unless the Contractor can prove that there is no suitable trained Malawian citizen available.</p> <p>Tenderers are required to specify the non-Malawian personnel they intend bringing to Malawi for the sole purpose of executing the works. This listing does not absolve the Contractor from compliance with Clause 6.12.</p> <p>Contractors shall further note that they must reinvestigate the availability of Malawian persons every six months, and if a suitable person is then available, he shall be employed in the place of the Non-Malawian person, who shall then leave the country.</p> <p>The Contractor is also required to employ at least 10% of his labour force from the female gender.</p> <p>Failure to comply with this clause may result in the contract being stopped until the</p>

	contractor has fulfilled this requirement. The Employer will not honour claims resulting from the stoppage of the contract due to the contractor's failure to comply with this clause.
GCC 6.14	<p>Funeral Arrangements</p> <p>The contractor shall make all necessary arrangements for the transport, to any place as required for burial, of any of his expatriate employees or members of families who may die in Malawi. The contractor shall also be responsible, to the extent required by the local regulations, for making any arrangements with regard to burial of any of his local employees who may die while engaged upon the works.</p>
GCC 6.15	<p>Alcoholic Liquor and Drugs</p> <p>The Contractor shall not, otherwise than in accordance with the statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importance, gift, barter or disposal by his Sub-contractors, agents, staff and labour.</p>
GCC 6.16	<p>Arms and Ammunition</p> <p>The Contractor shall not give, barter, or otherwise dispose of to any person or persons any arms or ammunition of any kind or permit or suffer the same as aforesaid.</p>
GCC 6.17	<p>Festival and Religious Customs</p> <p>The Contractor shall, in all dealings with his staff and labour, have due regard to all recognized festivals, days of the rest and religious or other customs prevalent in the country of the Employer prior to submission of Tender, The Contractor is required to satisfy himself with the respective said holidays, customs and festivals.</p> <p>If unscheduled official events take place on designated project working days (e.g., special election days) for which the Contractor could not have known during Tender Stage, the Contractor is required to submit to the Employer for his approval ahead of the event taking place, with a copy to the Engineer, the official notifications, any proposed action to be undertaken and any resultant time or financial aspects.</p>
GCC 6.18	<p>Epidemics</p> <p>In the event of any outbreak of illness of an epidemic nature, the Contractor, at his own cost, shall comply with and implement such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for the purpose of dealing with and overcoming the same.</p>
GCC 6.19	<p>Books and Records</p> <p>The Contractor shall keep proper wages' books and time sheets, showing the wages paid to and time worked by the workmen in and about the execution of the Contract. He shall be bound, whenever required, to furnish such wages books and time sheets for the inspection of the Engineer, the Government Agent, or the Employer.</p>
GCC 6.20	<p>Evidence of Compliance</p> <p>The Contractor shall, from time to time, furnish to the Engineer any detailed information and evidence the Engineer may require in order to satisfy himself that the labour conditions of the contract have been complied with.</p>

<p>GCC 6.21</p>	<p>Breach of Wages</p> <p>Any Contractor or Sub-Contractor who is found to be in breach of the wages enforced pursuant to Clause 6.2 shall cease to be approved as a Contractor or Sub-Contractor for any further public contracts.</p> <p>Should a claim be made to the Employer alleging the Contractor's default in payment of wages of any workmen employed on the Contract and if complaints are brought to the notice of the Engineer and satisfactory proof thereof is furnished to the Engineer, the Engineer may, failing payment by the Contractor, arrange for the payment of such claim out of the monies due to the Contractor under the said Contract.</p>
<p>GCC 6.22</p>	<p>Employment Records of Workers</p> <p>The Contractor shall keep complete and accurate records of the employment of labour at the site. The records shall include the names, ages, genders hours worked and wages paid to all workers. These records shall be summarised on a monthly basis and submitted to the Engineer, and these records shall be available for inspection by Auditors during normal working hours. These records shall be included in the details to be submitted by the Contractor under GC Clause 6.10 [Records of Contractor's Personnel and Equipment].</p>
<p>GCC 6.23</p>	<p>Employment of Local Personnel</p> <p>It is an explicit Particular Condition of this contract that no unskilled labour may be employed on the works unless he or she is a Malawian citizen. It is a further condition that no skilled or semi-skilled non-Malawian person be employed on the works unless the Contractor can prove that there is no suitable trained Malawian citizen available.</p> <p>Tenderers are required to specify the non-Malawian personnel they intend bringing to Malawi for the sole purpose of executing the works. This listing does not absolve the Contractor from the compliance with Clause 6.12.</p> <p>Contractors shall further note that they must reinvestigate the availability of Malawian persons every six months, and if a suitable person is then available, he shall be employed in the place of the Non-Malawian person, who shall then leave the country.</p> <p>The contractor is also required to employ at least 10% of his labour force from the female gender.</p> <p>Failure to comply with this clause may result in the contract being stopped until the contractor has fulfilled this requirement. The Employer will not honour claims resulting from the stoppage of the contract due to the Contractor's failure to comply with this clause.</p>
<p>GCC 7.7</p>	<p>Ownership of Plant and Materials</p> <p>Add the following at the end of Clause 7.7:</p> <p>All Plant and Materials owned by the Contractor, or by any company in which the Contractor has a controlling interest, shall, when delivered on the Site for incorporation into the works, be deemed to be the property of the Employer.</p> <p>Provided always that the vesting of such property in the Employer shall not prejudice the right of the Contractor to the sole use of the said Contractor's Plant and Materials for the purpose of the Works nor shall it affect the Contractor's responsibility to operate and maintain the same under the provisions of the Contract.</p>

<p>GCC 7.9</p>	<p>Overloading of Vehicles</p> <p>The Contractor shall implement sufficient measures on site to prevent overloading of construction vehicles. No vehicle on site shall be loaded more than the load for which the vehicles was designed or is licensed to carry, whichever is smaller.</p> <p>The Engineer shall have the right to instruct the Contractor to reduce loads on construction vehicles if in his opinion the vehicles damage any part of the asphalt road network. The Engineer shall also be entitled to check the weight to ensure that no vehicle was overloaded.</p> <p>A penalty in line with applicable penalties for overloading of Ministry of Transport and Public Works will be payable by the Contractor to the Employer for every incident of overloading. Such penalties will be deducted from payments due to the Contractor by the Employer.</p>
<p>GCC 8.2</p>	<p>Time for Completion</p> <p>Add the following sentence at the end:</p> <p>The time for completion of the works stated in PCC Part A (Contract Data) is inclusive of special non-working days and the normal construction industry holidays.</p>
<p>GCC 8.3</p>	<p>Programme</p> <p>Add the following sub-item in item (d):</p> <p>(iii) The critical path and the planned production rates of all activities shall be clearly indicated on the programme, with due allowance being made for non-working periods, and periods where for any reason, for instance weather conditions, when production rates will be reduced.</p> <p>Add the following at the end of the clause. The Employer shall withhold 5% of Current Interim Payment Certificate amount for late submission of an updated Programme.</p>
<p>GCC 12.3</p>	<p>Valuation of the works</p> <p>Add the following Paragraph at the end of this Sub-Clause:</p> <p>If, on the issue of the Taking-Over Certificate for the whole of the Works, it is found that as a result of variations issued and all adjustments upon measurement of the estimated quantities set out in the Bill of Quantities, excluding Provisional Sums and price adjustments, there have been additions or deductions from the Accepted Contract Amount which taken together are in excess of fifteen (15) percent of the Accepted Contract Amount less Provisional Sums, Budget Amounts and Contingencies, then and in such event, after due consultation by the Engineer with the Employer and the Contractor, there shall be added to or deducted from the Contract Price ten (10) percent of the total amount of additions or deductions.</p>
<p>GCC 14.3</p>	<p>Application for Interim Payment Certificates</p> <p>Add the following at the end of the Clause:</p> <p>The estimated contract value of the Works executed during the month shall be agreed with the Engineer's Representative on site prior to the preparation of the Statement. The quantities claimed for the various items shall be accurate and not simply guessed or based on a percentage of the scheduled quantity.</p>

GCC 14.8	Delayed Payment Calculation of Financing Charges for delayed payment shall be Prime Lending Rate of the Reserve Bank of Malawi + 1% or if not available the Inter Bank offered rate and shall be calculated at simple interest
GCC 18.1	Add the following to the list of exceptional events Shortage of diesel and/or bitumen and/or cement in Malawi and any other similar unforeseeable events not within the control of either party and which by the exercise of due diligence neither party is able to overcome.

Particular Conditions

Part C- Environmental and Social (ES)

Metrics for Progress Reports

Metrics for regular reporting:

- a. *environmental incidents or non-compliances with contract requirements, including contamination, pollution or damage to ground or water supplies;*
- b. *health and safety incidents, accidents, injuries that require treatment and all fatalities;*
- c. *interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);*
- d. *status of all permits and agreements:*
 - (i) work permits: number required, number received, actions taken for those not received;
 - (ii) status of permits and consents:
 - list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);
 - list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);
 - identify major activities undertaken in each area in the reporting period and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);
 - for quarries: status of relocation and compensation (completed, or details of activities and current status in the reporting period).
- e. *health and safety supervision:*
 - (i) safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;
 - (ii) number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);
- f. *worker accommodations:*
 - (i) number of expats housed in accommodations, number of locals;
 - (ii) date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;
 - (iii) actions taken to recommend/require improved conditions, or to improve conditions.
- g. *Health services: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnoses (no names to be provided);*

- h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);*
- i. training:*
 - (i) number of new workers, number receiving induction training, dates of induction training;
 - (ii) number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;
 - (iii) number and dates of communicable diseases (including STDs) sensitization and/or training, no. workers receiving training (in the reporting period and in the past); same questions for gender sensitization, flag person training.
 - (iv) number and date of SEA and SH prevention sensitization and/or training events, including number of workers receiving training on Code of Conduct for Contractor's Personnel (in the reporting period and in the past), etc.
- j. environmental and social supervision:*
 - (i) environmentalist: days worked, areas inspected and numbers of inspections of each (road section, work camp, accommodations, quarries, borrow areas, spoil areas, swamps, forest crossings, etc.), highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;
 - (ii) sociologist: days worked, number of partial and full site inspections (by area: road section, work camp, accommodations, quarries, borrow areas, spoil areas, clinic, HIV/AIDS center, community centers, etc.), highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and
 - (iii) community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.
- k. Grievances: list new grievances (e.g. number of allegations of SEA and SH) received in the reporting period and number of unresolved past grievances by date received, complainant's age and sex, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):*
 - (i) Worker grievances;
 - (ii) Community grievances
- l. Traffic, road safety and vehicles/equipment:*
 - (i) traffic and road safety incidents and accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;
 - (ii) traffic and road safety incidents and accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;
 - (iii) overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).
- m. Environmental mitigations and issues (what has been done):*

- (i) dust: number of working bowzers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/spoil lorries with covers, actions taken for uncovered vehicles;
- (ii) erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;
- (iii) quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken in the reporting period at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;
- (iv) blasting: number of blasts (and locations), status of implementation of blasting plan (including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);
- (v) spill clean-ups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);
- (vi) waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;
- (vii) details of tree plantings and other mitigations required undertaken in the reporting period;
- (viii) details of water and swamp protection mitigations required undertaken in the reporting period.

n. compliance:

- (i) compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;
- (ii) compliance status of C-ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- (iii) compliance status of SEA and SH prevention and response action plan: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance
- (iv) compliance status of Health and Safety Management Plan re: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

other unresolved issues from previous reporting periods related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

Particular Conditions

Part D- Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment Performance Declaration for Subcontractors

[The following table shall be filled in by each subcontractor proposed by the Contractor, that was not named in the Contract]

Subcontractor's Name: [insert full name]

Date: [insert day, month, year]

Contract reference [insert contract reference]

Page [insert page number] of [insert total number] pages

SEA and/or SH Declaration
<p>We:</p> <p><input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.</p> <p><input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.</p> <p><input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. An arbitral award on the disqualification case has been made in our favor.</p> <p><input type="checkbox"/> (d) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have subsequently demonstrated that we have adequate capacity and commitment to comply with SEA /SH obligations.</p> <p><input type="checkbox"/> (e) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations for a period of two years. We have attached specific evidence demonstrating that we have adequate capacity and commitment to comply with SEA and SH obligations.</p>
<p>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</p>
<p style="text-align: center;">[If (d) or (e) above are applicable, provide the following information:]</p>
<p>Period of disqualification: From: _____ To: _____</p>
<p>If previously provided on another Bank financed works contract, details of evidence that demonstrated adequate capacity and commitment to comply with SEA/SH obligations (as per (d) above)</p> <p>Name of Employer: _____</p> <p>Name of Project: _____</p> <p>Contract description: _____</p> <p>Brief summary of evidence provided: _____</p> <p>_____</p> <p>Contact Information: (Tel, email, name of contact person): _____</p> <p>_____</p>
<p>As an alternative to the evidence under (d), other evidence demonstrating adequate capacity and commitment to comply with SEA/SH obligations (as per (e) above) [attach details as appropriate].</p>

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor _____

Signature of the person named above _____

Date signed _____ day of _____, _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date signed _____ day of _____, _____

SECTION 9: Contract Forms

SECTION 9

Contract Forms (Malawi)

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Contract Agreement

Procurement Reference No:

THIS AGREEMENT made the day of, ,2020, between
..... of (hereinafter called
“the Employer”), of the one part, and of
..... (hereinafter called “the
Contractor”), of the other part:

WHEREAS the Employer is desirous that the Contractor execute
..... (hereinafter called “the Works”) and the Employer has
accepted the Bid by the Contractor for the execution and completion of such Works and the
remedying of any defects therein for the sum of
..... (hereinafter called the Contract Price) within a
periodcalendar days.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) The Contract Agreement (if completed)
 - (b) Minutes of Contract Negotiations (if any)
 - (c) the Letter of Acceptance
 - (d) the Letter of Tender
 - (e) the Particular Conditions part A- Contract Data
 - (f) the Particular Conditions part B- Special Provisions
 - (g) these General Conditions
 - (h) the Particular Specifications
 - (i) the Standard Specifications (SATCC 1998, reprinted 2001)
 - (j) the Drawings and
 - (k) the priced Bill of Quantities
 - (l) the completed Qualification Information Forms and any other documents forming part of the Contract.
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
5. The Contract Price or such other sum as may be payable shall be paid in and Malawi Kwacha.

IN WITNESS whereof the parties thereto have caused this Agreement to be executed in accordance with the law specified in the Special Conditions of Contract on the day, month and year indicated above.

Signed by: (for the Employer)

Name: Position:

Witnessed by:

Part 2: Section 9: Contract Forms

Name:

Address:

Signed by:

(for the Contractor)

Name:

Position:

Witnessed by:

Name:

Address:

Note for Bidders: The Performance Security should be on the letterhead of the issuing Financial Institution and should be signed by a person with the proper authority to sign documents that are binding on the Financial Institution.

Performance Bank Guarantee

Performance Bank Guarantee (Unconditional)

Date: **[insert date]**

Procurement Reference No.: **[insert procurement reference number]**

To: **[name and address of Employer]**

WHEREAS **[name and address of Contractor]** (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. **[number]** dated **[date]** to execute **[name of Contract and brief description of Works]** (hereinafter called "the Contract");

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

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

NOW THEREFORE WE hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of **[amount of Guarantee] [amount in words]**, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of **[amount of Guarantee]** as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

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

This Guarantee shall be valid until a date twenty-eight (28) days from the date of issue of the Certificate of Completion.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

Signature and seal of the Guarantor:

Name of Financial Institution:

Address:

Date:

Note for Bidders: The Advance Payment Security should be on the letterhead of the issuing Financial Institution and should be signed by a person with the proper authority to sign documents that are binding on the Financial Institution.

Advance Payment Security

Bank Guarantee for Advance Payment

To: **[name and address of Employer]**
[name of Contract]

Gentlemen:

In accordance with the provisions of the Conditions of Contract, Clause 51 (“Advance Payment”) of the above-mentioned Contract, **[name and address of Contractor]** (hereinafter called “the Contractor”) shall deposit with **[name of Employer]** a Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of **[amount of Guarantee] [amount in words]**.

We, the **[Bank or Financial Institution]**, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to **[name of Employer]** on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding **[amount of Guarantee] [amount in words]**.

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

This Guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until **[name of Employer]** receives full repayment of the same amount from the Contractor.

This Guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

Yours truly,

Signature and seal:

Name of Bank/Financial Institution:

Address:

Date: