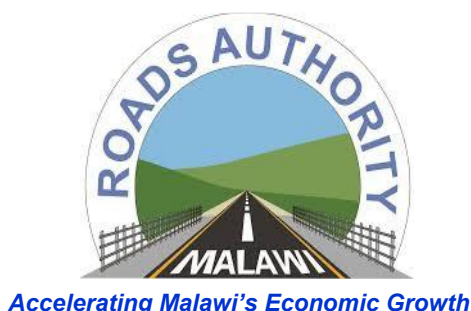


# Government of The Republic of Malawi



## ROADS AUTHORITY

### Bidding Document for Procurement of Civil works for the

#### Rehabilitation of Nsipe – Chingeni - Liwonde (M001/M008) Road Section (55 km)

**Employer:** ROADS AUTHORITY  
Functional Building Off Paul Kagame Road  
Private Bag B346  
Lilongwe 3- MALAWI

**Project:** THE MULTINATIONAL NACALA ROAD CORRIDOR  
DEVELOPMENT PROJECT PHASE-V

**Project ID No.** P-MW-DB0-022

**Contract title:** Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008) Road  
section (55 km)

**Country:** Malawi

**Loan No. / Grant No.:** 2100150028743

**OCBI No:** RA/DEV/MGH-BLK-NU/2022-23/04

**Issued on:** 5<sup>th</sup> March 2024



AFRICAN DEVELOPMENT BANK GROUP  
GROUPE DE LA BANQUE AFRICAINE  
DE DEVELOPPEMENT

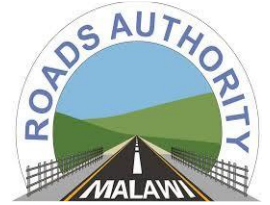
# INVITATION FOR BIDS

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**Government of the Republic of Malawi**



AFRICAN DEVELOPMENT BANK GROUP  
GROUPE DE LA BANQUE AFRICAINE  
DE DEVELOPPEMENT



## ROADS AUTHORITY

### Invitation for Bids [IFB] Works (After Prequalification)

#### MULTINATIONAL NACALA ROAD CORRIDOR DEVELOPMENT PROJECT PHASE-V

**IFB Number:** RA/DEV/MGH-BLK-NU/2022-23/04  
**Employer:** Roads Authority  
**Project:** MULTINATIONAL NACALA ROAD CORRIDOR DEVELOPMENT,  
PROJECT PHASE-V  
**Contract title:** Nsipe-Chingeni-Liwonde Road Rehabilitation in Malawi  
**Country:** Malawi  
**Loan No. / Grant No.:** 2100150028743  
**Procurement Method:** Open Competitive Bidding (International) (OCBI)  
**OCBI No:** RA/DEV/MGH-BLK-NU/2022-23/04  
**Issued on:** 5<sup>th</sup> March, 2024

Roads Authority  
Functional Building, Paul Kagame Road  
Private bag B346  
Lilongwe 3, MALAWI

1. The Malawi Government has received financing from the African Development Bank hereinafter called the Bank toward the cost of the MULTINATIONAL NACALA ROAD CORRIDOR DEVELOPMENT, PROJECT PHASE-V, and intends to apply part of the proceeds toward payments under the contract for Nsipe-Chingeni-Liwonde Road Rehabilitation in Malawi. For this contract the Borrower shall process the payments using the Direct Payment disbursement method, as defined in the Bank's Disbursement Guidelines and procedures for Investment Project Financing;
2. The Roads Authority on behalf of the Malawi Government now invites sealed Bids from the following prequalified eligible Applicants for Nsipe-Chingeni-Liwonde Road Rehabilitation in Malawi (M1/M8) road.

## **2.1. Project scope**

The project involves the rehabilitation or re-construction of Liwonde -Chingeni- Nsipe (M001/M008) Road section. The project road is 55km long stretching from Nsipe Trading Centre in Ntcheu District to Liwonde Township in Machinga District through Balaka Boma. The road section from Nsipe Trading Centre to Chingeni Trading Centre is part of the M001 road while the section from Chingeni Trading Centre to Liwonde Town forms the M08 road. Nsipe-Chingeni-Liwonde is of vital importance to the Malawi Transport system as well as SADC block as it forms part of the Nacala Road Corridor designated as Route 20 on the SADC Regional Trunk Road Network (RTRN). The project is part of the route connecting Mozambique at Mandimba/Chiponde border with Zambia at Mchinji/Mwami Border

### **a) Roadworks**

The road will be rehabilitated to have 3.4m wide lanes and 2.0 and 2.5 paved shoulders in rural and urban section respectively each direction. The road has been raised at Balaka Town to incorporate a road-over-rail bridge.

Pavement: It has two sections as per the following

- a) Section 1 (0+000 – 20+000) having a 200mm subbase, 200mm base (CRR), 50mm-thick Asphalt concrete
- b) Section 2 (20+000 – 54+772) having a 200mm subbase, 150mm base (CRR), 50mm-thick Asphalt concrete

### **b) Structures**

- I. Pipe Culverts- 100 nos
- II. Box culverts - 21 nos
- III. Bridges - 3 nos
- IV. One RoB
- V. VUP-2 nos

### **c) Miscellaneous**

- I. Major Junction-4 nos (one roundabout out of 4)
- II. Urban with parking length is 6480m ( both sides)
- III. RE Wall length is 1200 m(both sides)
- IV. Busbays- 26 nos

**d) The quantities of major items:**

S/N	Description of items	Unit	Quantity
1	Earthwork in Cutting	cum	224,945
2	Earthwork in Filling	cum	638,270
3	Improved Subgrade	cum	115,085
4	Gravel Sub-base	cum	141,830
5	Crushed Stone Base	cum	132,050
6	Asphalt Concrete Surfacing ( 50 mm)	sqm	636,970
7	Concrete for structures	cum	13,380

**2.2. Prequalified Applicants**

S/N	Name of Applicant	Contact address applicant
1	CHINA GEO-ENGINEERING CORPORATION	BUILDING B, NO. 92, XIANGSHAN SOUTH ROAD, HAIDIAN DISTRICT, BEIJING, CHINA Email: <a href="mailto:cgcoverseas@chinageo.com.cn">cgcoverseas@chinageo.com.cn</a> ; <a href="mailto:cgcmalawi@163.com">cgcmalawi@163.com</a> / <a href="mailto:zhanghf914@163.com">zhanghf914@163.com</a>
2	UNIK CONSTRUCTION ENGINEERING (PTY) LTD / BANGO Joint Venture	Plot 50370, Fairgrounds East Wing Acumen Park, GABORONE, BOTSWANA Golden Peacock Complex Office 4 <sup>th</sup> Floor, Area 13/92, City Centre, Lilongwe, Malawi Email: <a href="mailto:unikbotswana@unikconst.com">unikbotswana@unikconst.com</a>
3	China Road and Bridge Corporation	C88, Andingmenwai Dajji, Beijing China Email: <a href="mailto:crbc_mz@126.com">crbc_mz@126.com</a>
4	MOHAMMED ABDULMOHSIN AL-KHARAFI & SONS W.L.L	Shaker Abdulmajeed Al Kazim Building, Floor 2, Khaled Bin Al-Waleed Street, Block 006, Sharg Area, Kuwait Email: <a href="mailto:khaledm@makharafi.net">khaledm@makharafi.net</a>
5	STRABAG International GmbH	Siegburger Str, 241 50679, Cologne, Germany Email: <a href="mailto:Christiane.pohl@strabag.com">Christiane.pohl@strabag.com</a>
6	CONDURIL ENGENHARIA S.A.	AV ENG. DUARTE PACHECO NO. 1835 ERMESINDE, PORTUGAL Camp Site: P O Box 40, Liwonde Email: <a href="mailto:jpauao@conduril.pt">jpauao@conduril.pt</a> / <a href="mailto:aires.enosse@conduril.pt">aires.enosse@conduril.pt</a>
7	MOTA ENGIL ENGENHARIA E CONSTRUCAO AFRICA	RUA DO REGO LAMEIRO, NO. 38 4300-454 PORTO P O Box 31379, Lilongwe 3, Malawi

S/N	Name of Applicant	Contact address applicant
		Email: <a href="mailto:antonio.pimenta@motaengil.mw">antonio.pimenta@motaengil.mw</a> <a href="mailto:jose.t.rodrigues@motaengil.mw">jose.t.rodrigues@motaengil.mw</a>
8	EN-EZ Insaat Sanayi ve Ticaret Anomin Sirket	iLkbakhar Mahallesi 609 Cad No: 21 Cankaya-Ankara Turkey Email: <a href="mailto:info@enezinsaat.com.tr">info@enezinsaat.com.tr</a>
9	CHINA RAILWAY 20 BUREAU GROUP CORPORATION	NO. 89 TAIHUA ROAD, WEIYANG DISTRICT, XI'AN CITY, Shaaxzi Province, CHINA Email: <a href="mailto:cr20malawi@yahoo.com">cr20malawi@yahoo.com</a>
10	SHANDONG LUQIAO GROUP CO. LTD	14677 JINGSHI ROAD, LIXIA DISTRICT, JINAN, SHANDONG, CHINA Email: <a href="mailto:sdlqmlw@gmail.com">sdlqmlw@gmail.com</a>
11	CHINA JIANGXI INTERNATIONAL ECONOMIC & TECHNICAL CORPORATION Co. LIMITED	No. 1198, Fenghezhong Avenue, Honggutan District, Nanchang Jiangxi PR China Email: <a href="mailto:gec@cjic.cn">gec@cjic.cn</a>
12	STECOL CORPORATION	NO. 2 RONGYUAN ROAD, HUAYAN INDUSTRIAL ZONE, TIANJIN, CHINA Email: <a href="mailto:799557133@qq.com">799557133@qq.com</a>
13	AFCONS Infrastructure Limited	Afcons House, 16, Shah Industrial Estate Veera Desai Road, Azad nagar Andheri [West], Mumbai-400 053, India Email: <a href="mailto:tushardeb@afcons.com">tushardeb@afcons.com</a>
14	Jiangxi Engineering (Group) Corporation Limited	Plot No. 965, Biejing East Road, P O 330029, Nanchang City, Jiangxi Province, China Email: <a href="mailto:jiangxiconstructionengineering@gmail.com">jiangxiconstructionengineering@gmail.com</a>
15	Jiangxi Geo – Engineering (Group) Corporation	Plot 60, Rose Garden Road, Mikochen, Kinondoni, Dar es Sallam Tanzania Email: <a href="mailto:jdtzhq@hotmail.com">jdtzhq@hotmail.com</a>
16	PETROJET	Plot (21:26) Sector One, 5 <sup>th</sup> Settlement, New Cairo Egypt Email: <a href="mailto:amrsayed@petroject.com.eg">amrsayed@petroject.com.eg</a>

3. Bidding will be conducted through the Open Competitive Bidding (International), OCBI procedures as specified in the Bank's Procurement Framework ("2015 Procurement Framework, and is open to all prequalified eligible Bidders.
4. Prequalified eligible Bidders may obtain further information from Roads Authority, Procurement Manager, e-mail: [ipc@ra.org.mw](mailto:ipc@ra.org.mw) and inspect the bidding document during office hours 0900 to 1600 hours Central African Time at the address given below.
5. The bidding document in English may be purchased by prequalified eligible Bidders upon the submission of a written application to the address below and upon payment of a nonrefundable fee of US \$100 or MWK180,000.00. The method of payment will be will be cash or bank certified cheque deposited at the account as detailed below. The document may be collected by bidders, or will be sent by courier upon the bidder's prior arrangement. No liability will be accepted for loss or late delivery by courier. Bidding Documents may also be accessed at RA website: [www.ra.org.mw](http://www.ra.org.mw).

Account details for foreign currency

Bank: NBS Bank  
Account name: Roads Authority  
Account number: 21000574  
Branch: Capital City Service Centre  
SWIFT Code: NBST MWMW

Account details for local currency

Bank Name: NBS Bank, Capital City Service Centre  
Account Name: Roads Authority  
Account number: 20991453  
Currency: Malawi Kwacha

6. Bids must be delivered to the address below on or before 16<sup>th</sup> April 2024. Electronic bidding will not be permitted. Late Bids will be rejected. Bids will be publicly opened in the presence of the Bidders' designated representatives and anyone who chooses to attend at the address below on 16<sup>th</sup> April 2024 at 10:00 Hours Central African Time.
7. All Bids must be accompanied by a Bid Security of US\$ USD 215,000.00 or its equivalent.
8. Attention is drawn to the Procurement Framework requiring the Borrower to disclose information on the successful bidder's beneficial ownership, as part of the Contract Award Notice, using the Beneficial Ownership Disclosure Form as included in the bidding document."
9. The address (es) referred to above is (are):

Roads Authority  
Eng. Ammiel Champiti, Chief Executive Officer  
Functional Building, Paul Kagame Road, Private Bag B346, Lilongwe 3, Malawi  
Telephone number: +265 1 753 699  
Facsimile number: +265 1 750 307

Email address: [ipc@ra.org.mw](mailto:ipc@ra.org.mw)  
Web site address: [www.ra.org.mw](http://www.ra.org.mw)

## **Standard Bidding Document**



# **Standard Bidding Document**

## **Summary**

### **Part 1 – Bidding Procedures**

#### **Section I - Instructions to Bidders (ITB)**

This Section provides relevant information to help prequalified Bidders prepare their Bids. It is based on a one-envelope Bidding process. Information is also provided on the submission, opening, and evaluation of Bids and on the award of Contracts. Section I contains provisions that are to be used without modification.

#### **Section II - Bid Data Sheet (BDS)**

This Section includes provisions that are specific to each procurement and that supplement Section I, Instructions to Bidders.

#### **Section III - Evaluation and Qualification Criteria**

This Section specifies the criteria for evaluation of Bids and qualification of Bidders to perform the contract to determine the successful Bidder or Bidders that are substantially responsive to the bidding document and whose Bid (s) offer the lowest evaluated cost to the Employer. Only such criteria as appropriate for each procurement will be specified.

#### **Section IV - Bidding Forms**

This Section includes the forms for the Bid Submission, Bill of Quantities, Schedules of technical proposal, including technical and financial qualifications, personnel, financial resources, and equipment, Bid Security and others to be completed and submitted by the Bidder as part of its Bid.

#### **Section V - Eligible Countries**

This Section contains information regarding eligible countries.

#### **Section VI - Fraud and Corruption**

This Section includes the Fraud and Corruption provisions which apply to this Bidding process.

### **Part 2 – Works' Requirements**

#### **Section VII - Works' Requirements**

This Section contains the Specification, the Drawings, and supplementary information that describe the Works to be procured. The Works' Requirements also include the environmental and social (ES) requirements (including requirements relating to Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) which are to be satisfied by the Contractor in executing the works.

### **Part 3 – Conditions of Contract & Contract Forms**

#### **Section VIII - General Conditions (GC)**

This Section refers to the "General Conditions" which form part of the Conditions of Contract for Construction (Second Edition 2017) published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC).

#### **Section IX - Particular Conditions (PC)**

This Section includes particular conditions of the contract consisting of: Part A- Contract Data; Part B -Specific Provisions, Part C – Fraud and Corruption; Part D – Environmental and Social (ES) Reporting Metrics for Progress Reports; and Part E - Eligibility. The contents of this Section supplement the General Conditions and shall be completed by the Employer.

#### **Section X - Contract Forms**

This Section contains the Letter of Acceptance, Contract Agreement and other relevant forms.

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# **Standard Bidding Document Works (After Prequalification)**

*[Without Provisions for Evaluation Using MEAT]*

## **Procurement of Civil Works: For the**

**Rehabilitation of Nsipe – Chingeni - Liwonde (M001/M008)  
Road Section (55 km) in Ntcheu and Balaka District.**

**Employer:** ROADS AUTHORITY  
Functional Building Off Paul Kagame Road  
Private bag B346  
Lilongwe 3- MALAWI

**Project:** THE MULTINATIONAL NACALA ROAD CORRIDOR  
DEVELOPMENT PROJECT PHASE-V: Project ID No.: P-MW-  
DB0-022

**Contract title:** Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008)  
Road section (55 km) in Ntcheu and Balaka District.

**Country:** Malawi

**Loan No. / Grant No.:** 2100150028743

**OCBI No:** RA/DEV/MGH-BLK-NU/2022-23/04

**Issued on:** 5<sup>th</sup> March 2024

# Standard Bidding Document

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## **Part 1 – Bidding Procedures**

# Section I - Instructions to Bidders

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## Section I - Instructions to Bidders

### A. General

#### 1. Scope of Bid

- 1.1 The Employer, as specified **in the BDS**, issues this bidding document for the provision of Works as specified in Section VII, Works' Requirements. The name, identification, and number of "whole of the works", hereafter called 'Works' invited under one or more lots (Contracts) or Packages each lot containing one or more 'Works' or each package containing one or more lots of this IFB are specified **in the BDS**.
- 1.2 Throughout this bidding document:
- (a) 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;
  - (b) if the context so requires, "singular" means "plural" and vice versa;
  - (c) "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;
  - (d) "ES" means environmental and social (including Sexual Exploitation, and Abuse (SEA) and Sexual Harassment (SH));
  - (e) "**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;
  - (f) "**Sexual Harassment**" "**(SH)**" is defined as unwelcome sexual advance 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;
  - (g) "**Contractor's Personnel**" is as defined in Sub- Clause 1.1.17 of the General Conditions of Contract; and
  - (h) "**Employer's personnel**" is as defined in GCC Sub-Clause 1.1.33 of the General Conditions of Contract.

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 Borrower or Recipient (hereinafter called "Borrower") specified **in the BDS** has received or has applied for financing (hereinafter called "funds") from the Specific Financing Institution named in the BDS (hereinafter called "the Bank") in an amount specified **in the BDS**, toward the project named **in the BDS**. The Borrower intends to



apply a portion of the funds to eligible payments under the contract(s) for which this bidding document is issued.

- 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, equipment, plant, or materials, if such payment or import is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).

### **3. Fraud and Corruption**

- 3.1 The Bank requires compliance with the Bank's Integrity Framework comprising the African Development Bank Group's Sanctions Procedures, the Bank's Whistleblowing and Complaints Policy, the Bank's Procurement Policy under the Procurement Framework and any other applicable Policies and Procedures including their updates in regard to corrupt and fraudulent practices, as set forth in Section VI.
- 3.2 In further pursuance of this policy, bidders shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and their personnel, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

### **4. Eligible Bidders**

- 4.1 A Bidder may be a firm that is a private entity, a state-owned enterprise or institution subject to ITB 4.6 or any combination of such entities in the form of a joint venture, consortium, or association (JVCA) hereinafter called JV, under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, consortium, or association (JV): a) Unless otherwise specified in the BDS, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms; b) The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Bidding process and, in the event the JV is awarded the Contract, during contract execution; c) The maximum number of members proposed in a JV shall not exceed the number specified in the BDS, or the number derived from the percentage specified under ITB 4.1 (d), whichever is smaller unless both are equal, in which case anyone shall apply; and d) Participation by value of the contract as share of each of the JV partner (member) shall not be less than the percentage specified in the BDS. In case of any inconsistency between ITB 4.1 c) and ITB 4.1 d) such that both cannot be applied simultaneously, the latter shall prevail.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this Bidding process, if the Bidder:
  - (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
  - (b) receives or has received any direct or indirect subsidy from another Bidder; or
  - (c) has the same legal representative as another Bidder; or

- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the Bid of another Bidder, or influence the decisions of the Employer regarding this Bidding process; or
  - (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Bid; or
  - (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation; or
  - (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
  - (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who:
    - (i) are directly or indirectly involved in the preparation of the bidding document or specifications of the Contract, and/or the Bid evaluation process of such Contract; or
    - (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the Bidding process and execution of the Contract.
- 4.3 A firm that is a Bidder (either individually or as a JV member shall not participate in more than one Bid, except for permitted alternative Bids. This includes participation as a subcontractor in other Bids. Such participation shall result in the disqualification of all Bids in which the firm is involved. A firm that is not a Bidder or a JV member may participate as a subcontractor in more than one Bid.
- 4.4 A Bidder and all parties constituting the Bidder including any subcontractors or suppliers shall have the nationality of an eligible country of the Bank in accordance with the Bank's Procurement Policy for the Bank Group Funded Operation described under the Bank's Procurement Framework, and as listed in Section V, Eligible Countries, subject to the restrictions pursuant to ITB. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services.
- 4.5 A Bidder that has been sanctioned by the Bank, pursuant to the Bank's Integrity Framework, and in accordance with its prevailing sanctions policies and procedures as set forth in the Bank's Integrity Framework, as described in Section VI paragraph 2.2 d. shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.
- 4.6 Bidders that are state-owned enterprise or institutions in the Employer's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Employer.

- 4.7 A Bidder shall not be under suspension from Bidding by the Employer as the result of the operation of a Bid–Securing Declaration.
- 4.8 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower’s Country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services 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 Borrower’s country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. When the Works are implemented across jurisdictional boundaries (and more than one country is a Borrower, and is involved in the procurement), then exclusion of a firm or individual on the basis of ITB 4.8 (a) above by any country may be applied to that procurement across other countries involved, if the Bank and the Borrowers involved in the procurement agree.
- 4.9 This Bidding is open only to prequalified Bidders.
- 4.10 A Bidder shall provide such documentary evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.11 A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower’s request, is satisfied that the debarment; (a) relates to fraud or corruption, and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

## **5. Eligible Materials, Equipment, and Services**

- 5.1 The materials, equipment and services to be supplied under the Contract and financed by the Bank shall have their country of origin in an eligible country of the Bank in accordance with the Bank’s Procurement Policy for Bank Group Funded Operations described under the Bank’s Procurement Framework, and as listed in Section V, Eligible Countries, subject to the restrictions specified therein Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer’s request, Bidders may be required to provide evidence of the origin of materials, equipment and services.
- 5.2 The nationality of the firm that produces, assembles, distributes, or sells the materials and equipment shall not determine their origin.

# **B. Contents of Bidding Document**

## **6. Sections of Bidding Document**

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

### **PART 1 Bidding Procedures**

- Section I - Instructions to Bidders (ITB)
- Section II - Bid Data Sheet (BDS)
- Section III - Evaluation and Qualification Criteria

- Section IV - Bidding Forms
- Section V - Eligible Countries
- Section VI - Fraud and Corruption

## **PART 2 Works' Requirements**

- Section VII - Works' Requirements

## **PART 3 Conditions of Contract and Contract Forms**

- Section VIII - General Conditions (GC)
- Section IX - Particular Conditions (PC)
- Section X - Contract Forms

- 6.2 The notice of Invitation for Bids (IFB) issued by the Employer to the prequalified Bidders is not part of the bidding document.
- 6.3 Unless obtained directly from the Employer, the Employer is not responsible for the completeness of the bidding document, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the bidding document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding document and to furnish with its Bid all information and documentation as is required by the bidding document.

## **7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**

- 7.1 A Bidder requiring any clarification of the bidding document shall contact the Employer in writing at the Employer's address specified **in the BDS** or raise its enquiries during the pre-Bid meeting if provided for in accordance with ITB 7.4. The Employer will respond in writing to any request for clarification, provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Bids. The Employer shall forward copies of its response to all Bidders who have acquired the bidding document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified **in the BDS**, the Employer shall also promptly publish its response at the web page identified **in the BDS**. Should the clarification result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document following the procedure under ITB 8 and ITB 22.2.
- 7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility 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.
- 7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

- 7.4 If so specified **in the BDS**, the Bidder's designated representative is invited to attend a pre-Bid meeting and/or a Site of Works visit. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested to submit any questions in writing, to reach the Employer not later than one week before the meeting.
- 7.6 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the bidding document in accordance with ITB 6.3. If so specified **in the BDS**, the Employer shall also promptly publish the Minutes of the pre-Bid meeting at the web page identified **in the BDS**. Any modification to the bidding document that may become necessary as a result of the pre-Bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to ITB 8 and not through the minutes of the pre-Bid meeting. Nonattendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

## 8. Amendment of Bidding Document

- 8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the bidding document by issuing addenda.
- 8.2 Any addendum issued shall be part of the bidding document and shall be communicated in writing to all who have obtained the bidding document from the Employer in accordance with ITB 6.3. The Employer shall also promptly publish the addendum on the Employer's web page in accordance with ITB 7.1.
- 8.3 To give Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer should extend the deadline for the submission of Bids, pursuant to ITB 22.2.

# C. Preparation of Bids

## 9. Cost of Bidding

- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

## 10. Language of Bid

- 10.1 The Bid, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Employer, shall be written in the language specified **in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in **the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.

## 11. Documents Comprising the Bid

- 11.1 The Bid shall comprise the following:
- (a) **Letter of Bid** prepared in accordance with ITB 12;
  - (b) **Schedules** including priced Bill of Quantities, completed in accordance with ITB 12 and ITB 14;

- (c) **Bid Security or Bid-Securing Declaration**, in accordance with ITB 19.1;
  - (d) **Technical Bid—of Base Bid**;
  - (e) **Commercial Terms and Conditions**;
  - (f) **Alternative Technical Bid**, if permissible, in accordance with ITB 13;
  - (g) **Authorization**: written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.3;
  - (h) **Eligibility and Qualifications**: documentary evidence in accordance with ITB 17 establishing the Bidder's continued eligibility and qualified status to perform the Contract if its Bid is accepted;
  - (i) **Conformity**: a documentary evidence in accordance with ITB 16 and ITB 30, and in support of above sub-paragraphs (d) and (e) of ITB 11.1, as necessary, to establish that the offered Works and Services, and Terms and Conditions of the Bid conform to the requirements and provisions of the bidding document; and
  - (j) any other document required **in the BDS**.
- 11.2 In addition to the requirements under ITB 11.1, Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Bid shall be signed by all members and submitted with the Bid, together with a copy of the proposed Agreement.
- 11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.
- 11.4 The Bidder shall furnish in the Letter of Bid the names of three potential Dispute Avoidance/Adjudication Board (DAAB) members and attach their curriculum vitae. The list of potential DAAB members proposed by the Employer (Contract Data 21.1) and by the Bidder (Letter of Bid) shall be subject to the Bank's No-objection.

## 12. Letter of Bid and Schedules

- 12.1 The Letter of Bid and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.3. All blank spaces shall be filled in with the information requested.

## 13. Alternative Bids

- 13.1 Unless otherwise specified **in the BDS**, alternative Bids shall not be considered. If Alternative Bids are permitted, BDS shall specify which of the following ITB (s) namely, ITB 13.2, ITB 13.3 and ITB 13.4 shall be considered.
- 13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included **in the BDS** and the method of evaluating different alternative time for completion will be described in Section III, Evaluation and Qualification Criteria.
- 13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the requirements of the bidding document must first price the Employer's design as described in the bidding document and shall further provide all information necessary for



a complete evaluation of the alternative by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Bidder with the Lowest Evaluated Bid conforming to the basic technical requirements shall be considered by the Employer.

- 13.4 When **specified in the BDS**, Bidders are permitted to submit alternative technical solutions for specified parts of the Works. Such parts will be **identified in the BDS** and described in Section VII, Works' Requirements. The method for their evaluation will be stipulated in Section III, Evaluation and Qualification Criteria.

#### 14. Bid Prices and Discounts

- 14.1 The prices and discounts (including any price reduction) quoted by the Bidder in the Letter of Bid and in the Bill of Quantities shall conform to the requirements specified below.
- 14.2 The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Employer. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Bid, and provided that the Bid is determined substantially responsive notwithstanding this omission, the average or the highest price of the item as specified in the BDS quoted by substantially responsive Bidders will be added to the Bid price and the equivalent total cost of the Bid so determined will be used for price comparison.
- 14.3 The price to be quoted in the Letter of Bid, in accordance with ITB 12.1, shall be the total price of the Bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and the methodology for their application in the Letter of Bid, in accordance with ITB 12.1, ITB 14.6 and ITB 14.7.
- 14.5 Unless otherwise specified **in the BDS** and the Conditions of Contract, the rates and prices quoted by the Bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract. In such a case, the Bidder shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Employer may require the Bidder to justify its proposed indices and weightings. A Bid submitted with a fixed price basis shall not be rejected unless otherwise **specified in the BDS** and in the latter case, a Bid submitted with fixed price shall be rejected.
- 14.6 **As specified in the BDS**, bids are being invited for "Works" as a single contract (or as one lot); or for individual lots (contracts) each lot containing one or more 'Works'; or for any combination of lots (packages). Bidders wishing to offer discounts for the award of more than one Contract (lot) shall specify in their Bid the price reductions applicable to each contract (lot) and package as the case may be. Bidders shall fully explain the methodology and calculations for applying such discounts, showing how the reductions are derived and the net amounts of each contract after the application of the offered discounts to individual items. Discounts can be offered only for those items for which the Bidder is required to bid and not for any item where the Employer has included its estimated cost as a fixed sum or a percentage in the Bills of Quantities. Discounts shall be submitted in accordance with ITB 14.4, and ITB 14.6 provided that the Bids for all lots (contracts) are opened at the same time.
- 14.7 Discounts offered shall be clear and without any vagueness or ambiguity to avoid rejection of the bid as no clarification shall be requested or permitted on this account after bid

submission. The Employer's decision on a bid's discount will be based on the contents of the bid itself, without recourse to any extrinsic evidence. If in the Employer's opinion, which will be final, a discount offered in the bid: I) is unclear, ambiguous or vaguely presented to the extent that it cannot be either interpreted or applied with reasonable accuracy, the Bid shall be rejected; II) relates to any item of cost for which the Bidder is not required to submit a bid price or the Employer may have indicated the estimated cost e.g. for a provisional sum or contingencies as per the bidding document, then the bid will be evaluated without the application of the discount offered for such item of cost; and III) has minor discrepancy or unclarity which could be interpreted reasonably, the Employer in this case may decide not to reject the bid and apply the discount as it deems reasonable and appropriate resulting in the lowest evaluated cost to the Employer. If the Bidder does not accept the Employer's decision based on any of the above, the bid shall be rejected.

- 14.8 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.

## 15. Currencies of Bid and Payment

- 15.1 The currency (ies) of the Bid and the currency (ies) of payments shall be as specified in the BDS.
- 15.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Bid are reasonable, in which case a detailed breakdown of the foreign currency requirements shall be provided by Bidders.

## 16. Documents Comprising the Technical Bid

- 16.1 The Bidder shall furnish details of a technical specifications proposed in the Technical Bid including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Bidding Forms, or elsewhere in the bidding document, and if applicable, a statement of deviations and exceptions to any of the provisions of the bidding document, in sufficient detail to demonstrate the adequacy of the Bidder's proposal to meet the Employer's Work's requirements and the completion time, and to demonstrate substantial responsiveness to the technical specifications required as per the provisions of the Section VII, Work's Requirements.

## 17. Documents Establishing the Eligibility and Qualifications of the Bidder

- 17.1 In accordance with Section III, Evaluation and Qualification Criteria, to establish that the Bidder continues to meet the criteria used at the time of prequalification, the Bidder shall provide updated information on any assessed aspect that changed from that time.
- 17.2 Any change in the structure or formation of a Bidder after being prequalified and invited to Bid (including, in the case of a JV, any change in the structure or formation of any member thereto) shall be subject to the written approval of the Employer prior to the deadline for submission of Bids. Such approval shall be denied if (i) a Bidder proposes to associate with a disqualified Bidder or in case of a disqualified joint venture, any of its members; (ii) as a consequence of the change, the Bidder no longer substantially meets the qualification criteria; or (iii) in the opinion of the Employer, the change may result in a substantial reduction in competition. Any such change should be submitted to the Employer not later than fourteen (14) days after the date of the notice for IFB sent to the prequalified Bidders.



- 17.3 If a margin of preference applies as specified in accordance with ITB 33.1, domestic Bidders, individually or in joint ventures, applying for eligibility for domestic preference or regional preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITB 33.1.

## 18. Period of Validity of Bids

- 18.1. Bids shall remain valid for the Bid Validity period specified **in the BDS** or any extended period if amended by the Employer in accordance with ITB 8. The Bid Validity period starts from the date fixed for the Bid submission deadline (as prescribed by the Employer in accordance with ITB 22). A Bid valid for a shorter period shall be rejected by the Employer as nonresponsive.
- 18.2 In exceptional circumstances, prior to the expiration of the Bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB 19, it shall also be extended for twenty-eight (28) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its Bid, except as provided in ITB 18.3.
- 18.3 If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Bid validity period, the Contract price shall be determined as follows:
- (a) in the case of **fixed price** contracts, the Contract price shall be the Bid price adjusted by the factor specified **in the BDS** to reflect any increase in the cost of inputs over the period of extension, which for the purpose of this adjustment, shall be the period elapsed between the date arrived immediately after the expiry of fifty-six (56) days beyond the initial Bid validity period and the date of notification of award ;
  - (b) in the case of **adjustable price** contracts, no adjustment shall be made; and
  - (c) in any case, Bid evaluation shall be based on the Bid price without taking into consideration the applicable correction from those indicated above.

## 19. Bid Security

- 19.1 The Bidder shall furnish as part of its Bid, either a Bid-Securing Declaration or a Bid Security amount as specified **in the BDS**, in original form and, in the case of a Bid Security amount, in the amount and currency specified **in the BDS**.
- 19.2 A Bid-Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 19.3 If a Bid Security amount is specified pursuant to ITB 19.1, the Bid Security shall be a demand guarantee in any of the following forms at the Bidder's option:
- (a) an unconditional guarantee issued by a bank or non-bank financial institution (such as an insurance, bonding or surety company);
  - (b) an irrevocable letter of credit;
  - (c) a cashier's or certified check; or
  - (d) another security specified **in the BDS**,

from a reputable source from an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Employer's Country, the issuing non-bank financial institution shall have a correspondent financial institution located in the Employer's Country to make it enforceable unless the Employer has agreed in writing, prior to Bid submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Bid Security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Employer prior to Bid submission. The Bid Security shall be valid for twenty-eight (28) days beyond the original validity period of the Bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4 If a Bid Security in amount or Bid Securing Declaration is specified pursuant to ITB 19.1, any Bid not accompanied by a substantially responsive Bid Security or Bid-Securing Declaration shall be rejected by the Employer as non-responsive.
- 19.5 If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the Contract and furnishing the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security pursuant to ITB 48.
- 19.6 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required Performance Security, and if required in the BDS, the Environmental and Social (ES) Performance Security.
- 19.7 The Bid Security amount may be forfeited:
- (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or
  - (b) if the successful Bidder fails to:
    - (i) sign the Contract in accordance with ITB 47; or
    - (ii) furnish a Performance Security and if required in the BDS, the Environmental **and Social (ES)** Performance Security in accordance with ITB 48.
- 19.8 The Bid Security amount or the Bid-Securing Declaration of a JV shall be in the name of the JV that submits the Bid. If the JV has not been legally constituted into a legally enforceable JV at the time of Bidding, the Bid Security amount or the Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.
- 19.9 If a Bid Securing Declaration is required **in the BDS**, pursuant to ITB 19.1, and:
- (a) if a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder in the Letter of Bid or any extension thereto provided by the Bidder; or
  - (b) if the successful Bidder fails to:
    - (i) sign the Contract in accordance with ITB 47; or
    - (ii) furnish a Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with ITB 48.

the Borrower may execute the Bid Securing Declaration, as provided for **in the BDS**, declare the Bidder ineligible to be awarded a contract by the Employer for a period of time stated **in the BDS**.

## 20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original of the documents comprising the Bid as described in ITB 11 and clearly mark it “ORIGINAL.” Alternative Bids, if permitted in accordance with ITB 13, shall be clearly marked “ALTERNATIVE.” In addition, the Bidder shall submit copies of the Bid, in the number specified **in the BDS** and clearly mark them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 Bidders shall mark as “CONFIDENTIAL” all information in their Bids which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.
- 20.3 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified **in the BDS** and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid where entries or amendments have been made shall be signed or initialed by the person signing the Bid.
- 20.4 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Bid.

## D. Submission and Opening of Bids

### 21. Sealing and Marking of Bids

- 21.1 The Bidder shall deliver the Bid in a single, sealed envelope (one-envelope Bidding process). Within the single envelope the Bidder shall place the following separate, sealed envelopes:
  - (a) in an envelope marked “ORIGINAL”, all documents comprising the Bid, as described in ITB 11; and
  - (b) in an envelope marked “COPIES”, all required copies of the Bid; and
  - (c) if alternative Bids are permitted in accordance with ITB 13, and if relevant:
    - (i) in an envelope marked “ORIGINAL – ALTERNATIVE BID”, the alternative Bid; and
    - (ii) in the envelope marked “COPIES – ALTERNATIVE BID”, all required copies of the alternative Bid.
- 21.2 The inner and outer envelopes shall:
  - (d) bear the name and address of the Bidder;
  - (e) be addressed to the Employer in accordance with ITB 22.1;

(f) bear the specific identification of this Bidding process specified in accordance with BDS 1.1; and

(g) bear a warning not to open before the time and date for Bid opening.

21.3 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.

## 22. Deadline for Submission of Bids

22.1 Bids must be received by the Employer at the address and no later than the date and time specified **in the BDS**. When so specified **in the BDS**, Bidders shall have the option of submitting their Bids electronically. Bidders submitting Bids electronically shall follow the electronic Bid submission procedures specified **in the BDS**.

22.2 The Employer may, at its discretion, extend the deadline for the submission of Bids by amending the bidding document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

## 23. Late Bids

23.1 The Employer shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 22. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.

## 24. Withdrawal, Substitution, and Modification of Bids

24.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be:

(a) prepared and submitted in accordance with ITB 20 and ITB 21 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and

(b) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 22.

24.2 Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

24.3 No Bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of Bids and the expiration of the period of Bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

## 25. Bid Opening

25.1 Except in the cases specified in ITB 23 and ITB 24.2, the Employer shall publicly open and read out in accordance with this ITB all Bids received by the deadline, at the date, time and place specified **in the BDS**, in the presence of Bidders' designated representatives and anyone who chooses to attend. Any specific electronic Bid opening procedures required if electronic Bidding is permitted in accordance with ITB 22.1, shall be as specified **in the BDS**.

- 25.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No Bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Bid opening.
- 25.3 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 authorization to request the substitution and is read out at Bid opening.
- 25.4 Next, 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 authorization to request the modification and is read out at Bid opening.
- 25.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Price, per lot (contract) if applicable, including any discounts and alternative Bids; the presence or absence of a Bid Security or Bid-Securing Declaration, if required; and any other details as the Employer may consider appropriate.
- 25.6 Only Bids, alternative Bids and discounts that are opened and read out at Bid opening shall be considered further for evaluation. The Letter of Bid and the Bill of Quantities are to be initialed by representatives of the Employer attending Bid opening in the manner specified **in the BDS**.
- 25.7 The Employer shall neither discuss the merits of any Bid nor reject any Bid (except for late Bids, in accordance with ITB 23.1).
- 25.8 The Employer shall prepare a record of the Bid opening that shall include, as a minimum:
- (a) the name of the Bidder and whether there is a withdrawal, substitution, or modification;
  - (b) the Bid Price, per lot (contract) if applicable, including any discounts;
  - (c) any alternative Bids; and
  - (d) the presence or absence of a Bid Security, if one was required.
- 25.9 The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

## **E. Evaluation and Comparison of Bids**

### **26. Confidentiality**

- 26.1 Information relating to the evaluation of Bids and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with the Bidding process until information on Intention to Award the Contract is transmitted to all Bidders in accordance with ITB 43.
- 26.2 Any effort by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.

- 26.3 Notwithstanding ITB 26.2, from the time of Bid opening to the time of Contract award, if a Bidder wishes to contact the Employer on any matter related to the Bidding process, it shall do so in writing.

## **27. Preliminary Examination & Clarification of Bids**

- 27.1 Prior to the detailed evaluation, pursuant to ITB 35, the Employer will conduct preliminary examination of all bids that have been received by the deadline for bid submission and opened at public bid opening as the first step towards determination of their substantial responsiveness to the bidding document. The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB 11 without recourse to extrinsic evidence. The Employer will verify and examine bids to determine whether they are complete, properly signed to bind the bidder, meet eligibility requirements of bidders, materials, equipment, and services, bidders have no conflict of interest and have provided required bid validity, bid security or bid securing declaration, as required and other essential documents to complete the evaluation, and whether the bids are generally in order. Subject to ITB 27.2 and 27.3, Bids failing to meet the above requirements shall be rejected and not retained for further review.
- 27.2 To assist in the examination, evaluation, and comparison of the Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid, given a reasonable time for a response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 31.
- 27.3 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.

## **28. Deviations, Reservations, and Omissions**

- 28.1 During the evaluation of Bids, the following definitions apply:

- (a) "Deviation" is a departure from the requirements specified in the bidding document;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the bidding document; and
- (c) "Omission" is the failure to submit part or all of the information or documentation required in the bidding document.

## **29. Determination of Responsiveness**

- 29.1 Following rejection of Bids if any, pursuant to ITB 27, as the next step, the remaining Bids will be further reviewed to determine their substantial responsiveness. The Employer's determination of a Bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.
- 29.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) if accepted, would:



- (i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or
    - (ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or
  - (b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.
- 29.3 The Employer shall examine the technical aspects of the Bid in accordance with ITB 16, ITB 17, ITB 29, ITB 30, the BDS if applicable and Section III Evaluation and Qualification Criteria in particular, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission. To this end, in consideration of materiality of any deviations, reservations or omissions, Bids failing to meet the mandatory technical requirements or minimum pass-fail technical criteria or failing to substantially meet any other technical requirements of the bidding document will risk their rejection.
- 29.4 The Employer shall similarly examine the commercial aspects of the bids including any deviations, other than technical specifications, submitted in response to the provisions of the bidding document, to determine if they conform to the terms and conditions of the draft contract and other documents included in the bidding document without any material deviation, reservation or omission, and establishment of materiality in such aspects will similarly risk rejection of the Bids.
- 29.5 If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission. All other bids determined substantially responsive will be retained for further evaluation.

### 30. Nonmaterial Nonconformities

- 30.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid.
- 30.2 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 30.3 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component and costs associated, if any, with non-material deviations, reservations and omissions to the requirements of the bidding documents in the manner specified in the BDS.

### 31. Correction of Arithmetical Errors

- 31.1 Provided that the Bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:
- (a) 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 Employer 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.

31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1 shall result in the rejection of the Bid.

## 32. Conversion to Single Currency

32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified **in the BDS**.

## 33. Margin of Preference

33.1 Unless otherwise specified **in the BDS**, no margin of domestic or regional preference shall apply. If the margin of preference applies, the application methodology shall be as specified in Section III, Evaluation and Qualification Criteria, and in accordance with the provisions stipulated in the Bank's Procurement Framework.<sup>1</sup>

## 34. Subcontractors

34.1 Unless otherwise stated **in the BDS**, the Employer does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Employer.

34.2 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified **in the BDS**. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.

34.3 Unless the Bidder was determined prequalified on its own without taking into account the qualification and experience of the proposed specialized sub-contractor(s) at prequalification stage, the bid submitted by the Bidder shall include the same specialized sub-contractor(s) for designated work(s) as proposed at prequalification failing which such bid may be rejected unless a change in the specialized contractor(s) was requested by the Bidder and approved by the Employer subsequent to prequalification and before bid submission deadline pursuant to a Bidder's request for change received within fourteen (14) days after the date of the Request for Bids.

## 35. Evaluation of Bids

35.1 The Employer shall use the criteria and methodologies listed in this ITB and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall

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<sup>1</sup> An individual firm is considered a domestic Bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic Bidders and eligible for domestic preference only if the individual member firms are registered in the country of the Employer or have more than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Borrower. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.



be permitted. By applying the criteria and methodologies the Employer shall determine the successful Bid or Bids in accordance with ITB 40.

35.2 To evaluate Bids, the Employer shall consider the following factors, in accordance with the evaluation and award criteria as applicable for single contract (one lot), lots (contracts) or packages (combination of lots) and as specified under Section III-Evaluation and Qualification Criteria:

- (a) the Bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities, but including Daywork items, where priced competitively;
- (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
- (c) price adjustment due to discounts offered in accordance with ITB 12.1, ITB 14.4, ITB 14.6 and ITB 14.7;
- (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
- (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
- (f) the additional evaluation factors specified **in the BDS** and Section III, Evaluation and Qualification Criteria; and
- (g) price adjustment due to application of Margin of Preference, if applicable, as per BDS of ITB 33.1, and Section III, Evaluation and Qualification Criteria.

35.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.

35.4 If this bidding document allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the Letter of Bid, is specified in Section III, Evaluation and Qualification Criteria.

### 36. Comparison of Bids

36.1 The Employer shall compare the evaluated costs of all substantially responsive Bids established in accordance with ITB 35.2 to determine the Bid that has the lowest evaluated cost.

### 37. Abnormally Low Bids

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

37.2 In the event of identification of a potentially Abnormally Low Bid, the Employer shall seek written clarifications from the Bidder, including detailed price analyses of its Bid price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document.

- 37.3 After evaluation of the price analyses, in the event that the Employer determines that the Bidder has failed to demonstrate its capability to perform the Contract for the offered Bid Price, the Employer shall reject the Bid.

### **38. Unbalanced or Front-Loaded Bids**

- 38.1 If the Bid that is evaluated as the lowest evaluated cost is, in the Employer's opinion, seriously unbalanced or front loaded, the Employer may require the Bidder to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Bid prices with the scope of works, proposed methodology, schedule and any other requirements of the bidding document.
- 38.2 After the evaluation of the information and detailed price analyses presented by the Bidder, the Employer may as appropriate:
- (a) accept the Bid; or
  - (b) require that the total amount of the Performance Security be increased at the expense of the Bidder to a level not exceeding 20 % of the Contract Price; or
  - (c) reject the Bid.

### **39. Qualifications of the Bidder**

- 39.1 The Employer shall determine to its satisfaction whether the Bidder or Bidders that is/are selected as having submitted the lowest evaluated cost and substantially responsive Bid (s) continue to be eligible and continue to meet the prequalifying criteria based on which they were prequalified. To this end, the Employer will determine for Lots and Packages, and/or their combinations, as the case may be, for which Bidder was prequalified and submitted bid, it continues to meet the respective minimum qualification criteria.
- 39.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document) or any other firm(s) different from the Bidder.
- 39.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the Bid, in which event the Employer shall proceed to the Bidder or Bidders who offered substantially responsive Bid or Bids with the next lowest evaluated cost to make a similar determination of such Bidders' qualifications to perform satisfactorily.

### **40. Successful Bid or Bids**

- 40.1 Having compared the evaluated costs of Bids, the Employer shall determine the successful Bid or combination of Bids as the case may be, in accordance with the additional Bid Evaluation Criteria as further described in Section III. Such Bid or Bids would be those which has/have been determined to:
- (a) be substantially responsive to the bidding document;
  - (b) offer the lowest evaluated cost to the Employer for all works to be procured based on either a single Contract or all multiple Contracts combined, as the case may be, in accordance with the ITB 14.6 inviting bid prices and discounts, and provisions made in the Bidding Document for evaluation of bids and award of contract (s); and

- (c) be offered by Bidder or Bidders that substantially meet the qualification criteria applicable for Contract or combination of Contracts for which they are selected.

#### **41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids**

- 41.1 The Employer reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at any time prior to Contract Award, without thereby incurring any liability to Bidders. In case of annulment, all Bids submitted and specifically, Bid securities, shall be promptly returned to the Bidders.

#### **42. Standstill Period**

- 42.1 The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITB 46. The Standstill Period commences the day after the date the Employer has transmitted to each Bidder the Notification of Intention to Award the Contract. Where only one Bid is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.

#### **43. Notification of Intention to Award**

- 43.1 The Employer shall send to each Bidder the Notification of Intention to Award the Contract to the successful Bidder. The Notification of Intention to Award shall contain, at a minimum, the following information:
  - (a) the name and address of the Bidder submitting the successful Bid;
  - (b) the Contract price of the successful Bid;
  - (c) the names of all Bidders who submitted Bids, and their Bid prices as readout, and as evaluated;
  - (d) a statement of the reason(s) the Bid (of the unsuccessful Bidder to whom the notification is addressed) was unsuccessful, unless the price information in c) above already reveals the reason;
  - (e) the expiry date of the Standstill Period; and
  - (f) instructions on how to request a debriefing and/or submit a complaint during the standstill period.

## **F. Award of Contract**

#### **44. Award Criteria**

- 44.1 Subject to ITB 41, and unless otherwise specified in the BDS, the Employer shall award the Contract or Contracts to the Bidder or Bidders whose Bid or Bids has/have been determined successful in accordance with ITB 40.

#### **45. Notification of Award**

- 45.1 Prior to the expiry of the Bid Validity Period and upon expiry of the Standstill Period specified in ITB 42.1 or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Employer shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification of award

(hereinafter and in the Conditions of Contract and Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Employer will pay the Contractor in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).

45.2 Within ten (10) Business Days after the date of transmission of the Letter of Acceptance, the Employer shall publish the Contract Award Notice which shall contain, at a minimum, the following information:

- (a) name and address of the Employer;
- (b) name and reference number of the contract being awarded, and the selection method used;
- (c) names of all Bidders that submitted Bids, and their Bid prices as read out at Bid opening, and as evaluated;
- (d) names of all Bidders whose Bids were rejected either as nonresponsive or as not meeting qualification criteria, or were not evaluated, with the reasons therefor;
- (e) the name of the successful Bidder, the final total contract price, the contract duration and a summary of its scope; and
- (f) successful Bidder’s Beneficial Ownership Disclosure Form, if specified in BDS ITB 47.1.

45.3 The Contract Award Notice shall be published on the Employer’s website with free access if available, or in at least one newspaper of national circulation in the Employer’s Country, or in the official gazette. The Employer shall also publish the contract award notice in UNDB online.

45.4 Until a formal Contract is prepared and executed, the Letter of Acceptance shall constitute a binding Contract.

#### **46. Debriefing by the Employer**

46.1 On receipt of the Employer’s Notification of Intention to Award referred to in ITB 43.1, an unsuccessful Bidder has three (3) Business Days to make a written request to the Employer for a debriefing. The Employer shall provide a debriefing to all unsuccessful Bidders whose request is received within this deadline.

46.2 Where a request for debriefing is received within the deadline, the Employer shall provide a debriefing within five (5) Business Days, unless the Employer decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Employer shall promptly inform, by the quickest means available, all Bidders of the extended standstill period.

46.3 Where a request for debriefing is received by the Employer later than the three (3)-Business Day deadline, the Employer should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.

- 46.4 Debriefings of unsuccessful Bidders may be done in writing or verbally. The Bidder shall bear their own costs of attending such a debriefing meeting.

#### **47. Signing of Contract**

- 47.1 The Employer shall send to the successful Bidder the Letter of Acceptance including the Contract Agreement, and, if specified in the BDS, a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form, if so requested, shall be submitted within eight (8) Business Days of receiving this request.
- 47.2 The successful Bidder shall sign, date and return to the Employer the Contract Agreement within twenty-eight (28) days of its receipt.

#### **48. Performance Security**

- 48.1 Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security in accordance with the General Conditions of Contract, subject to ITB 38.2(b), using for that purpose the Performance Security and ES Performance Security Forms included in Section X, Contract Forms, or another form acceptable to the Employer. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Employer. A foreign institution providing a bond shall have a correspondent financial institution located in the Employer's Country, unless the Employer has agreed in writing that a correspondent financial institution is not required.
- 48.2 Failure of the successful Bidder to submit the above-mentioned Performance Security and if required in the BDS, the Environmental and Social (ES) Performance Security, or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Employer may award the Contract to the Bidder or Bidders offering the next Lowest Evaluated Cost to the Employer as per the bid evaluation and award criteria.

#### **49. Procurement Related Complaint**

- 49.1 The procedures for making a Procurement-related Complaint are as specified in the BDS.



## Section II - Bid Data Sheet (BDS)

The following specific data for the Works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

A. General	
ITB 1.1	<p>The reference number of the Invitation for Bids (IFB) is: OCBI NO:<b>RA/DEV/MGH-BLK-NU/2022-23/04</b></p> <p>The Employer is:  <b>Roads Authority,            Functional Building            Off Paul Kagame Road            Private bag B346            Lilongwe 3            MALAWI</b></p> <p>The name of the IFB is: <b>Open Competitive Bidding (International) (OCBI)</b></p> <p>Name of Works: <b>Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008) Road section. The Multinational Nacala Road Corridor Development Project Phase –V</b></p> <p>The number and identification of lots (contracts) comprising this IFB is: <b>One</b></p>
ITB 1.2(a)	<b>NA</b>
ITB 2.1	<p>The Borrower is: <b>Government of the Republic of Malawi</b></p> <p>The Specific Bank financing institution is: <b>African Development Fund (ADF)</b></p> <p>The name of the Project is: <b>THE MULTINATIONAL NACALA ROAD CORRIDOR DEVELOPMENT PROJECT PHASE-V:</b></p> <p>Project ID No.: <b>P-MW-DB0-022</b></p>
ITB 4.1 (a)	i) The firms in a Joint Venture, Consortium or Association (JV) <b>shall be</b> jointly and severally liable.
ITB 4.1 (c)	Maximum number of members in the Joint Venture, Consortium or Association (JV) shall be: <b>4 (Four)</b>
ITB 4.1 (d)	Minimum share of a member of Joint Venture, Consortium or Association (JV) in the contract shall not be less than <b>25%</b> percent of the total value of the contract.

ITB 4.5	<p>A list of debarred firms and individuals is available on the Bank's external website:</p> <p><a href="https://www.afdb.org/en/projects-operations/debarment-and-sanctions-procedures">https://www.afdb.org/en/projects-operations/debarment-and-sanctions-procedures</a></p>
<b>B. Contents of Bidding Document</b>	
ITB 7.1	<p>For <b>Clarification of Bid purposes</b> only, the Employer's address is:</p> <p><b>The Chief Executive Officer</b>  <b>The Roads Authority</b>  <b>Functional Building</b>  <b>Off Paul Kagame Road</b>  <b>Private bag B346</b>  <b>Lilongwe 3</b>  <b>MALAWI</b></p> <p>Attention: <b>Procurement Manager</b>  Address: <b>Functional Building, Paul Kagame Road</b>  Room number: <b>21</b>  City: <b>Lilongwe</b>  Country: <b>Malawi</b>  Telephone: +265 1 753699  Facsimile number: +265 1 750 307  Electronic mail address: <a href="mailto:ipc@ra.org.mw">ipc@ra.org.mw</a></p> <p>Requests for clarifications should be received by the Employer no later than <b>21 working days</b> prior to the deadline for submission of Bids.</p>
ITB 7.4	<p>A Pre-Bid meeting <b>Shall</b> take place at the following date, time and place:</p> <p>Date: <b>26<sup>th</sup> March 2024</b></p> <p>Time: <b>Site visit at Nsipe from 9:00 Hours Local Time and 14:00 Hours Local Time</b></p> <p>Place: <b>Liwonde</b></p> <p>A site visit conducted by the Employer <b>shall be</b> organized</p>
ITB 7.6	<p>Web page: <a href="http://www.ra.org.mw">www.ra.org.mw</a></p>
<b>C. Preparation of Bids</b>	
ITB 10.1	<p>The language of the Bid is: <b>English</b>.</p> <p>All correspondence exchange shall be in <b>English</b> language.</p> <p>Language for translation of supporting documents and printed literature is <b>English</b>.</p>



<b>ITB 11.i (h)</b>	<p>The Bidder must provide the following Documentary Evidence to establish the conformity of the Technical Proposal with the Bidding Document:</p> <ul style="list-style-type: none"> <li>(i) <b>Site organisation</b></li> <li>(ii) <b>Method Statement</b></li> <li>(iii) <b>Mobilisation Schedule</b></li> <li>(iv) <b>Construction Schedule</b></li> <li>(v) <b>Contractor's Equipment</b></li> <li>(vi) <b>Contractor's Personnel</b></li> <li>(vii) <b>Environment and Social Safeguards Management Plan</b></li> <li>(viii) <b>Priced Bills of Quantities</b></li> </ul>
<b>ITB 11.1 (j)</b>	<p>The Bidder shall submit the following additional documents in its Bid: Certified copies of the Bidders, legal and financial registration and License to Perform</p> <ul style="list-style-type: none"> <li>(i). Notarized or registered Power of Attorney</li> <li>(ii). Bid receipt</li> <li>(iii). Certificate of Incorporation/Registration</li> <li>(iv). Certified Copies of Company Form 7 indicating particulars of directors and company secretary</li> <li>(v). Original Tax Clearance</li> <li>(vi). VAT Registration Certificate</li> <li>(vii). Trading Licence or its equivalent</li> <li>(viii). Evidence of ownership of proposed equipment</li> <li>(ix). Signed CVs of proposed personnel and copies of academic and professional certificates</li> <li>(x). Takeover/Completion Certificates for projects listed for experience in similar works</li> <li>(xi). Line of credit issued by a Bank</li> <li>(xii). Audited Books of Accounts</li> <li>(xiii). Contract Agreements for works ongoing and completed works.</li> <li>(xiv). The complete bid and supporting documents on a Memory Stick</li> <li>(xv). Electronic copy (MS Excel) of the priced BoQs</li> </ul> <p><b>Code of Conduct for Contractor's Personnel (ES)</b></p> <p>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><b>Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks</b></p> <p>The Bidder shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:</p> <ul style="list-style-type: none"> <li>• Sexual Exploitation, and Abuse (SEA) prevention and response action plan];</li> <li>• Traffic Management Plan to ensure safety of local communities from construction traffic</li> </ul>

ITB 13.1	Alternative Bids <b>shall not be</b> considered.
ITB 13.2	Alternative times for completion <b>shall not be</b> permitted.
ITB 13.3	Technical Alternative as per ITB 13.3 <b>shall not be</b> permitted.
ITB 13.4	Alternative technical solution <b>shall not be</b> permitted.
ITB 14.2	The adjustment shall be based on the <b>highest price</b> of the item as quoted in other substantially responsive Bids.
ITB 14.5	The prices quoted by the Bidder <b>Fixed</b> . A bid submitted with price subject to adjustment shall be rejected.
ITB 14.6	Bids are invited and Bidders shall bid For Works.  Section III describes the criteria for evaluation and award of One and Multiple Contracts.
ITB 15.1	The currency(ies) of the Bid and the payment currency(ies) shall be in accordance with Alternative <b>A</b> as described below: <b>Alternative A (Bidders to quote entirely in foreign currency):</b> (a) The unit rates and the prices shall be quoted by the Bidder in the Bill of Quantities, entirely in <b>United Dollar (US\$)</b> and further referred to as “the <b>Foreign currency</b> ”. A Bidder expecting to incur expenditures in other currencies for inputs to the Works supplied from outside the Employer’s country (referred to as “the foreign currency requirements”) shall indicate in the Appendix to Bid - Table C, the percentage(s) of the Bid Price (excluding Provisional Sums), needed by the Bidder for the payment of such foreign currency requirements, limited to no more than three foreign currencies. (b) The rates of exchange to be used by the Bidder in arriving at the local currency equivalent and the percentage(s) mentioned in (a) above shall be specified by the Bidder in the Appendix to Bid - Table C, and shall apply for all payments under the Contract so that no exchange risk will be borne by the successful Bidder.
ITB 18.1	The Bid validity period shall be <b>126 days</b> .
ITB 18.3 (a)	The Bid price shall be adjusted by the following factor(s):_____ <b>NA</b>
ITB 19.1	A Bid Security amount <b>shall be</b> required. A Bid-Securing Declaration <b>shall not be</b> required. The amount and currency of the Bid Security shall be <b>USD 215,000.00</b> or its equivalent

	<p>The only acceptable form of bid security shall be: an on demand unconditional Bank Guarantee issued by a reputable financial institution (Bank) using the relevant format presented in Section IV Bidding Forms.</p> <p>Bidders who use Banks domiciled outside Malawi must secure along with the bid security, a declaration from a Bank domiciled and registered in Malawi categorically stating that the Malawian domiciled Bank “shall unconditionally and on first demand in writing from the Employer, accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions stated in the bid security, honour the Bid security on behalf of the issuing Bank.</p> <p>The bid security shall be valid for twenty-eight days (28) beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2</p>
ITB 19.3 (d)	Other types of acceptable securities: <b>None</b>
ITB 19.9	<b>NA</b>
ITB 20.1	In addition to the original of the Bid, the number of copies is: <b>3 (Three)</b>
ITB 20.3	<p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of:</p> <p>(1) Individual Bidder</p> <p>Power of Attorney by the company legal representative to nominate the Bidder’s representative to sign all the bid documents.</p> <p>(2) Joint Venture (JV)</p> <p>In the case of Bids submitted by an existing or intended JVCA an undertaking signed by all parties (i) stating that all parties shall be jointly and severally liable, if so required in accordance with ITB 4.1(a), and (ii) nominating a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JVCA during the bidding process and, in the event the JVCA is awarded the Contract, during contract execution</p>
<b>D. Submission and Opening of Bids</b>	
ITB 22.1	<p>For <b><u>Bid submission purposes</u></b> only, the Employer’s address is:</p> <p>The Chief Executive Officer The Roads Authority Functional Building Off Paul Kagame Road Private bag B346 Lilongwe 3 MALAWI</p> <p>The deadline for Bid submission is: Date: <b>16<sup>th</sup> April 2024</b></p>

	<p>Time: 10:30 Hours Central African Time</p> <p>Bidders <b>shall not</b> have the option of submitting their Bids electronically.</p>
<b>ITB 25.1</b>	<p>The Bid opening shall take place at:</p> <p><b>Roads Authority Conference Room-Floor No. 2</b>  The Roads Authority  Functional Building,  Off Paul Kagame Road  Private bag B346  Lilongwe 3  MALAWI</p> <p>Date: <b>16<sup>th</sup> April 2024</b></p> <p>Time: 10:30 Hours Central African Time</p>
<b>ITB 25.1</b>	<b>NA</b>
<b>ITB 25.6</b>	<p>The Letter of Bid and priced Bill of Quantities shall be initialed by <b>two</b> representatives of the Employer conducting Bid opening.</p> <p><b>Each Bid shall be initialed by all representatives and shall be numbered, any modification to the unit or total price shall be initialed by the Representative of the Employer</b></p>
<b>E. Evaluation, and Comparison of Bids</b>	
<b>ITB 30.3</b>	<p>The adjustment with respect to a missing or non-conforming item or component, and costs associated, if any, with non-material deviations, reservations or omissions to the requirements of the bidding document shall be based on the <b>highest</b> price of the item or component and cost, if any, of non-material deviations, reservations or omissions as quoted in or derived from other substantially responsive Bids unless any other specific evaluation criteria has been provided elsewhere in the bidding document for such adjustments in which case the latter shall be applied. If the price or cost of any of the above cannot be derived from the price of other substantially responsive Bids, the Employer shall use its best estimate based on its own judgment, past experience or market search, as considered appropriate.</p>
<b>ITB 32.1</b>	<p>The currency that shall be used for Bid evaluation and comparison purposes to convert at the selling exchange rate all Bid prices expressed in various currencies into a single currency is: <b>United Dollar ( US\$)</b></p> <p>The source of exchange rate shall be: <b>The Reserve Bank of Malawi.</b></p> <p>The date for the exchange rate shall be: <b>28 days prior to the deadline for submission of the Bids.</b></p> <p>The currency(ies) of the Bid shall be converted into a single currency in accordance with the procedure under Alternative <b>A</b> that follows:</p> <p><b>Alternative A: Bidders quote entirely in foreign currency</b></p> <p>For comparison of Bids, the Bid Price, corrected pursuant to ITB 31, shall first be broken down into the respective amounts payable in various currencies by using the selling exchange rates specified by the Bidder in accordance with ITB 15.1.</p>

	In the second step, the Employer will convert the amounts in various currencies in which the Bid Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and on the date stipulated above.
<b>ITB 33.1</b>	A margin of domestic preference <b>shall not</b> apply. A margin of regional preference <b>shall not</b> apply
<b>ITB 34.1</b>	At this time the Employer <b>does not intend to</b> execute certain specific parts of the Works by subcontractors selected in advance.
<b>ITB 34.2</b>	Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is <b>10%</b> of the total contract amount or <b>30%</b> of the volume of work.  Bidders planning to subcontract more than 10% of total volume of work shall specify, in the Letter of Bid, the activity (ies) or parts of the Works to be subcontracted along with complete details of the Subcontractors and their qualification and experience.
<b>F. Award of Contract</b>	
<b>ITB 47.1</b>	The successful Bidder <b>shall</b> submit the Beneficial Ownership Disclosure Form.
<b>ITB 48.1 and 48.2</b>	The successful Bidder shall be required to submit an Environmental and Social (ES) Performance Security.
<b>ITB 49.1</b>	<p>The procedures for making a Procurement-related Complaint are detailed in the <b>Part B</b> of the Operations Procurement Manual under the Procurement Framework of the African Development Bank. If a Bidder wishes to make a Procurement-related Complaint, the Bidder shall submit its complaint following these procedures to the employer, in writing (by the quickest means available, such as by email in accordance with the following:</p> <p><b>For the attention:</b> <a href="#">Eng. Ammiel Champiti</a>  <b>Title/position:</b> <a href="#">Chief Executive Officer</a>  <b>Employer:</b> <a href="#">Roads Authority</a>  <b>Email address:</b> <a href="mailto:achampiti@ra.org.mw">achampiti@ra.org.mw</a> / <a href="mailto:ra@ra.org.mw">ra@ra.org.mw</a></p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <ol style="list-style-type: none"> <li>1. the terms of the Bidding Documents;</li> <li>2. the purchaser's decision to exclude a bidder from the procurement process prior to the award of contract; and</li> <li>3. the Employer's decision to award the contract.</li> </ol> <p>The Bank's Procurement Framework stipulates that bidders may send copies of their communications with the Borrowers to the Bank or write to the Bank</p>

	<p>directly when, Borrowers do not respond promptly, any questions on any issues regarding the implementation of Bank funded projects, or when the communication is a complaint against the Borrower. In this regard, if a bidder wishes to protest against a decision made by a Borrower or the Bank with regards to the procurement process or wishes to inform the Bank that the Bank's procurement rules and/or provisions of the bidding documents have not been complied with, an email can be sent to the following address:</p> <p><b>Email:</b> <a href="mailto:procurementcomplaints@afdb.org">procurementcomplaints@afdb.org</a></p>
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## **Section III - Evaluation and Qualification Criteria**

## Section III - Evaluation and Qualification Criteria

This section contains all the criteria that the Employer shall use to evaluate Bids of qualified Bidders. No other factor methods or criteria shall be used other than specified in this bidding document. The Bidder shall provide all the information requested in the forms included in Section IV, Bidding Forms.

Wherever a Bidder is required to state a monetary amount, Bidders should indicate the USD equivalent using the rate of exchange determined as follows:

- For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
- Value of single contract - Exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in the ITB 32.1. Any error in determining the exchange rates in the Bid may be corrected by the Employer.



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## 1. Margin of Preference

*[ Not Applicable]*

## 2. Successful Bid or Bids & Evaluation

In continuation and accordance with ITB 40, the Employer shall use the criteria and methodologies listed in this Section to evaluate Bids. By applying these criteria and methodologies the Employer shall determine the successful Bid or Bids which has/have been determined to:

- (a) be substantially responsive to the bidding document;
- (b) offer the lowest evaluated cost to the Employer for all works to be procured based on either a single Contract or all multiple Contracts combined, as the case may be, in accordance with the ITB 14.6 inviting bid prices and discounts, and provisions made of the Bidding Document for evaluation of bids and award of contract (s); and
- (c) be offered by Bidder or Bidders that substantially meet the qualification criteria applicable for Contract or combined Contracts for which they are selected.

### 2.1. Evaluation (ITB 35)

In addition to the criteria listed in ITB 35.2 and BDS, the following criteria shall apply

- i) **Assessment of adequacy of Technical Proposal with Requirements (Reference ITB 16 and ITB 29.3): The Employer will determine whether the Bids are substantially responsive to the Technical Requirements.**

**Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section VII, Works' Requirements.**

- a) Mobilization of key equipment.
- b) Mobilization of key personnel
- c) Work/ Construction Method Statement
- d) Construction Schedule
- e) Material Source
- f) Environment and Social Management Plan (ESMP),

- ii) **Assessment of adequacy of Commercial Terms and Conditions of the Bid (Reference ITB 29.4): The Employer will determine whether the Bids are substantially responsive to the Commercial and Contractual Terms and Conditions.**

A Bid not comprising Technical Proposal or a Bid for which the Technical Proposal is not substantially responsive (i.e. with material deviation, reservation or omission) shall be rejected.

### 2.2. Single and Multiple Contracts

Pursuant to ITB 14.6, and ITB 35.4 and in accordance with how bids are invited either for 'Works' or Works are grouped in lots (contracts) or packages (one or more lots) and bids are invited for multiple lots or packages, evaluation and award will be as follows:

**Evaluation and Award Criteria for Single and Multiple Contracts [ITB 35.4]:**

- (i). **Works' Evaluation and Award Criteria for 'Works' as One (Single) Contract:**  
The bids will be evaluated for 'Works' and the contract will be awarded to the Bidder offering the lowest evaluated cost to the Employer for 'Works', subject to the selected Bidder substantially meeting the required qualification criteria for the contract, and determination of substantial responsiveness of the Bid.

- (ii). **Award Criteria for Multiple Contracts [ITB 35.4]: Not Applicable**

**2.3. Alternative Completion Times Not Applicable****2.4. Sustainable procurement: Based on the following main considerations:**

- i) Socio-economic consideration *[Employer to provide appropriate criteria as agreed with the Bank]*  
.....  
.....
- ii) Environmentally and Socially Responsible Procurement *[Employer to provide appropriate criteria as agreed with the Bank]*  
.....  
.....

[If specific **sustainable procurement technical requirements** have been specified in Section VII- Specification, **either** state that (i) those requirements will be evaluated on a pass/fail (compliance basis) **or** otherwise (ii) in addition to evaluating those requirements on a pass/fail (compliance basis), if applicable, specify the monetary adjustments to be applied to Bid prices for comparison purposes on account of Bids that exceed the specified minimum sustainable procurement technical requirements]

**2.5. Alternative Technical Solutions for specified parts of the Works**

Not Applicable

## 3. Qualification

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
1. Eligibility							
1.1.1	Nationality	Nationality in accordance with ITB 4.4	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid & Forms ELI – 1.1 and 1.2, with attachments
1.1.2	Eligibility of Materials, Equipment and Services	Country of Origin in accordance with ITB 5	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid & Form ELI-1.3
1.2	Conflict of Interest	No conflicts of interest in accordance with ITB 4.2	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITB 4.5.	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
1.4	State- owned Enterprise or Institution of the Borrower country	Meets conditions of ITB 4.6	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.5	United Nations resolution or Borrower’s country law	Not having been excluded as a result of prohibition in the Borrower’s country laws or official regulations against commercial relations with the Bidder’s country, or by an act of compliance with UN	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		Security Council resolution, both in accordance with ITB 4.8 and Section V.					
<b>2. Historical Contract Non-Performance</b>							
<b>2.1</b>	<b>History of Non-Performing Contracts</b>	Non-performance of a contract that <sup>1</sup> did not occur as a result of contractor default since 1 <sup>st</sup> January 2018.	Must meet requirement	Must meet requirements	Must meet requirement <sup>2</sup>	N/A	Form CON-2
<b>2.2</b>	<b>Suspension Based on Execution of Bid Securing Declaration by the Employer</b> or withdrawal of the Bid within Bid validity period or other failures	Not under suspension based on-execution of a Bid Securing Declaration or other failures pursuant to ITB 4.7 and ITB 19.9	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Letter of Bid
<b>2.3</b>	<b>Pending Litigation</b>	Bid's financial position and prospective long-term profitability still	Must meet requirement	N/A	Must meet requirement	N/A	Form CON – 2

<sup>1</sup> Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

<sup>2</sup> This requirement also applies to contracts executed by the Bidder as JV member.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Bidder					
2.4	Litigation History	No consistent history of court/arbitral award decisions against the Bidder <sup>3</sup> since 1 <sup>st</sup> January 2018	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2

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<sup>3</sup> The Bidder shall provide accurate information on the related Bid Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Bidder or any member of a joint venture may result in failure of the Bid.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
2.5	Declaration: Environmental and Social (ES) performance	Declare any civil work contracts that have been suspended or terminated and/or performance security called by an employer for reasons related to the non-compliance of any environmental, or social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), or health or safety requirements or safeguard in the past Five years. <sup>4</sup>	Must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Each must make the declaration. Where there are Specialized Sub-contractor/s, the Specialized Sub-contractor/s must also make the declaration.	N/A	Form CON-3 ES Performance Declaration

<sup>4</sup>The Employer may use this information to seek further information or clarifications in carrying out its due diligence.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
3.1	Financial Capabilities	(i) The Bidder shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as <b>USD 9 million</b> for the subject contract(s) net of the Bidder's other commitments	Must meet requirement	Must meet requirement	N/A	N/A	Form FIN – 3.1, 3.3 and 3.4 with attachments
		(ii) The Bidders shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the cash flow requirements on works currently in	Must meet requirement	Must meet requirement	N/A	N/A	
			Must meet requirement	N/A	Must meet requirement	N/A	



Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		progress and for future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the <b>last 5 years</b> shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.					
3.2	<b>Average Annual Construction Turnover</b>	Minimum average annual construction turnover of USD 20 <i>million</i> calculated as total certified payments received for contracts in progress and/ or completed within the last 5 years, divided by 5 years.	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% of the requirement	Form FIN – 3.2

4. Experience

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 10 years, starting 1 <sup>st</sup> January 2012	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
4.2 (a)	Specific Construction & Contract Management Experience	(i) A minimum number of similar contracts specified below that have been satisfactorily and substantially <sup>5</sup> completed as a prime contractor, joint venture member <sup>6</sup> , management contractor or sub-contractor between 1 <sup>st</sup> January 2012 and bid submission deadline: (i) <b>Three (3)</b> contracts, each of minimum value <b>USD 25 million;</b> Or (ii) two (2) contracts, each of minimum value <b>USD 35 million.</b>	Must meet requirement	Must meet requirement <sup>7</sup>	N/A	N/A	Form EXP 4.2(a)

<sup>5</sup> Substantial completion shall be based on 80% or more works completed under the contract.

<sup>6</sup> For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement

<sup>7</sup> In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		The similarity of the contracts shall be based on the following: Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may be met by specialized subcontractors, if permitted in accordance with ITB 34.3.					
<b>4.2 (b)</b>	<b>Construction Experience in Key Activities</b>	<ul style="list-style-type: none"> <li>For the above and any other contracts substantially completed and under implementation] as prime contractor, joint venture member, or sub-contractor between 1st January 2012 and Bid submission deadline,</li> </ul>	Must meet requirements	Must meet requirements	N/A	N/A	Form EXP – 4.2 (b)

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		<p>a minimum construction experience in the following key activities successfully completed:</p> <ul style="list-style-type: none"> <li>• Minimum experience in the following key activities (expressed in terms of annual production):</li> <li>• 322,000 m<sup>2</sup> of Asphaltic Concrete Surfacing</li> <li>• 75,000 m<sup>3</sup> of subbase from processed existing base and sub base.</li> <li>• 65,000 m<sup>3</sup> of Crushed stone base.</li> <li>• 300,000 m<sup>3</sup> of earthworks</li> <li>• Bridge construction (at least 60 m length)</li> <li>• account for all contracts where the above key activities were successfully</li> </ul>					

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Members Combined	Each Member	One Member	
		completed during the same specified period mentioned above." earthworks					
<b>4.2 (c)</b>	<b>Specific Experience in managing ES aspects</b>	For the contracts in 4.2 (a) above and/or any other contracts [substantially completed and under implementation] as prime contractor, joint venture member, or Subcontractor between 1 <sup>st</sup> January 2012 and Bid submission deadline, experience in managing ES risks and impacts in the following aspects: as per ESIA Report.	Must meet requirements	Must meet requirement	Must meet the following requirements: N/A	Must meet the following requirements: N/A	Form EXP – 4.2 (c)

### 3.1 Update of Information

The Bidder shall continue to meet the criteria used at the time of prequalification.

### 3.2 Specialized Subcontractors N/A

Only the Specialized Subcontractors as approved by the Employer will be considered. The Specialized Subcontractor shall continue to meet the criteria used at the time of prequalification. The general experience and financial resources of the Specialized Subcontractors shall not be added to those of the Bidder for purposes of qualification of the Bidder.

### 3.3 Financial Resources

Using the relevant Form 3.1 in Section IV, Bidding Forms, the Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet the overall cash flow requirements for this Contract and its current Works commitment.

## 4. Contractor's Representative and Key Personnel

The Bidder must demonstrate that it will have a suitably qualified Contractor's Representative and suitably qualified (and in adequate numbers) Key Personnel, as described in the Specification.

The Bidder shall provide details of the Contractor's Representative and Key Personnel and such other Key Personnel that the Bidder considers appropriate to perform the Contract, together with their academic qualifications and work experience. The Bidder shall complete the relevant Forms in Section IV, Bidding Forms.

No.	Position	In Similar Works Experience(years)
1	<b>Project Manager:</b> He / She shall possess minimum a Master's degree in Construction Management, Civil Engineering or equivalent qualification with at-least 15 years' experience as a Project Manager in similar contract conditions. Working knowledge and significant experience in administering FIDIC type contracts for construction will be required. The project manager responsibilities will include but not limited to overseeing the all construction works of the project including time and cost management, quality control, safety, supervising the labour force, checking design documents and dealing with any unexpected problems that may occur during the project. He / She will work closely with the appointed Supervision Engineer in all activities related to the project and make sure the project is in accordance with the specified designs. He/she shall be fluent in both written and spoken English.	15
2	<b>Deputy Project Manager:</b> He / She shall possess minimum a Bachelor's degree or B.Tech in Construction Management, Civil Engineering or equivalent qualification with minimum 10 years' experience as a Project Manager in similar contract conditions.	7

No.	Position	In Similar Works Experience(years)
	<p>The Deputy Project Manager should have experience in monitoring construction activities, preparation of programmes / schedules , maintaining comprehensive construction records including preparation of progress reports for road projects.</p> <p>He/she shall be fluent in both written and spoken English.</p>	
3	<p><b>Site Agent:</b></p> <p>He / She shall possess minimum a Bachelor's degree or B.Tech in Civil Engineering or construction related field or equivalent qualification with minimum 7 years' experience as a Site Agent in similar contract conditions.</p> <p>The site agent will be responsible for the management of the construction site activities including but not limited to preparation / review of method statements, carry out site audits to check for works and documentation compliance, supervision of temporary works, and should have considerable knowledge road construction methodologies.</p> <p>He/she shall be fluent in both written and spoken English.</p>	7
4	<p><b>Site Construction Manager:</b></p> <p>He / She shall possess minimum a Bachelor's degree in Civil Engineering or Construction Management or equivalent qualification in the construction field with minimum 10 years' experience as site construction manager in similar contract conditions.</p> <p>The site construction manager responsibilities and duties shall include but not limited to the supervision of the site running construction activities and ensure the project is completed in time and budget.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
5	<p><b>Bridge Engineer:</b></p> <p>He / She shall possess minimum a Master's Degree in Structural Engineering or Civil Engineering specializing in bridge construction with minimum 10 years' experience as bridge engineer in similar contract conditions working for a construction company.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
6	<p><b>Earthwork foreman:</b></p> <p>He / She should possess minimum a Diploma in Civil Engineering / construction management or equivalent qualification with minimum 10 years work related experience. Formal foreman training / certification with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10



No.	Position	In Similar Works Experience(years)
7	<p><b>Drainage Foreman:</b></p> <p>He / She should possess minimum a Diploma in construction or civil engineering related field with minimum 10 years work related experience. Formal foreman training / certification with excellent knowledge of civil engineering construction processes of drainage systems would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
8	<p><b>Pavement Foreman:</b></p> <p>He / She shall possess minimum a Diploma in road construction or civil engineering related field with minimum 10 years work related experience. Formal foreman training / certification in road construction with excellent knowledge of civil engineering construction processes of DBST roads and mechanically stabilized layers, would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
9	<p><b>Plant/Equip. Manager:</b></p> <p>He / She should possess minimum a Diploma in construction equipment repair and maintenance or equivalent related field with minimum 10 years work related experience.</p> <p>The Plant / Equipment Manager shall be responsible for the proper management of plant, equipment and machinery used on the construction site, creating reports and keeping records documenting all operations on site.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
10	<p><b>Piling Foreman:</b></p> <p>He / She shall possess minimum a Diploma in civil engineering, construction or closely related field in civil engineering with minimum 7 years work related experience. Formal foreman training / certification in piling with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	7
11	<p><b>Formwork Foreman:</b></p> <p>He / She shall possess minimum a Diploma in civil engineering or civil engineering construction related field or equivalent with minimum 5 years work related experience. Formal foreman training / certification in formwork with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>The formwork foreman duties and responsibilities shall be but not limited to reading and interpreting of structural drawings to design formwork, inspection of temporary works for quality, carry out formwork design, supervision of the installation of formwork.</p> <p>The Formwork Foreman should have technical knowledge and experience temporary works design and installation of formworks in the roads construction industry.</p> <p>He/she shall be fluent in both written and spoken English.</p>	5

No.	Position	In Similar Works Experience(years)
12	<p><b>Reinforcement Foreman:</b></p> <p>He / She should possess minimum a Diploma in civil engineering or construction management or closely related field in civil engineering construction with minimum 10 years work related experience. Formal foreman training / certification in reinforcement concrete with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>The Reinforcement Foreman should have technical knowledge and experience in monitoring of reinforcement activities such as cutting, bending, fabrication and placement of steel rebar as per drawing specifications in a similar roads construction project.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
13	<p><b>Concrete Foreman:</b></p> <p>He / She should possess minimum a Diploma in civil engineering / construction management / construction science / construction material science or closely related field in civil engineering construction with minimum 10 years work related experience. Formal foreman training / certification in concrete with excellent knowledge of civil engineering construction processes of concrete structural / non structural members would be highly desirable.</p> <p>The Concrete Foreman will be responsible for the supervision of all concrete related activities including concrete preparation, placing, finishing and curing.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
14	<p><b>Environmental Site Officer:</b></p> <p>He / She should be an environmentalist with minimum a Bachelor's degree in environmental engineering, environmental science, environmental management or equivalent qualification with a specialization in environmental monitoring of infrastructure projects or environmental risk management. He/she should have a minimum of 7 years experience covering implementation and monitoring of Environmental and Social Management Plans (ESMP) in road construction projects.</p> <p>He / She should have experience in environmental impact assessment for major infrastructure projects in the SADC region. Fluency in English both written and spoken is essential.</p>	7
15	<p><b>Social Specialist:</b></p> <p>He / She should be a qualified individual with minimum a Bachelor's degree in Social Sciences and proven experience on management of social related issues in infrastructure project or a closely related discipline. The Social Specialist shall have a minimum of 7 years' experience, working on social management studies for projects of similar nature in road construction or linear projects and be able to demonstrate a sound knowledge of social issues affecting local communities (HIV/AIDS,STDs etc.), initiatives and impact assessment and mitigation measures in developing and tropical countries. Ability to deal with communities and affected persons including government officials is essential. Fluency in English both written and spoken is essential.</p>	7

No.	Position	In Similar Works Experience(years)
	The social specialist should have also a demonstrated experience of dealing with grievances in the construction projects. Fluency in English both written and spoken is essential	
16	<p><b>Site Occupational Health Officer:</b></p> <p>He/she should possess minimum a Diploma in Occupation Health Studies, Health Science or equivalent related program. The qualified officer should have similar 5 years experience in construction related projects within the region.</p> <p>He/She should have experience overseeing health activities aimed at the promotion and maintenance of highest degree of physical, mental and social wellbeing of workers on similar construction infrastructure projects;</p> <p>He/she shall be fluent in both written and spoken English. Ability to communicate in Portuguese is desirable.</p>	5
17	<p><b>Site Occupational Safety Officer:</b></p> <p>He / She should be a qualified professional with minimum a diploma in Occupational Safety / Safety Management or equivalent related program. The qualified officer should have proven 5 years similar experience in similar conditions.</p> <p>He/she shall be fluent in both written and spoken English. Ability to communicate in Portuguese is desirable.</p>	5

## 5. Equipment

The Bidder must demonstrate that it has the key equipment listed hereafter:

No.	Equipment Type and Characteristics	Capacity	Minimum Number required
1	Bulldozers	285 HP	2
2	Graders	250 HP with ripper (minimum)	4
3	Dumper truck	11-18 ton	20
4	Wheel loader	2m <sup>3</sup> (minimum)	2
5	Backhoe loader	0.5 m <sup>3</sup> bucket (minimum)	2
6	Pneumatic tired Compactor	10 Ton (minimum)	4
7	Vibratory steel drum rollers	10 Ton (minimum)	4
8	Mounted Crane	30-40 Ton (minimum)	1
9	Low bed Truck	As per contractor Proposal it is open.	1
10	Bitumen storage tank	10,000 lit. (minimum)	1
11	Paver Finisher		1
12	Bitumen spreader distributor	6000 lit./min (minimum)	1
13	Mechanical broom	As per contractor Proposal it is open.	1
14	Concrete mix Plant	50 m <sup>3</sup> /h	1
15	Concrete transit mixer	8 m <sup>3</sup>	2
16	Concrete pump	As per contractor Proposal it is open.	1
17	Generator	350 KVA	4
18	Compressor	As per contractor Proposal it is open.	4
19	Water pump	As per contractor Proposal it is open.	4
20	Water Browser	12,000 Lit.	4
21	Fuel tank	30,000 Lit.	2
22	Vibrating plate	As per contractor Proposal it is open.	2
23	Pick-up truck	4 Ton	6
24	Excavator	0.8-1.4 m <sup>3</sup>	2
25	Concrete batch plant	5 m <sup>3</sup>	1
26	Multiple stage Crusher Plant	100 m <sup>3</sup> /h	1
27	Tandem roller	10 Ton	2

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

The evaluation criteria will be ability for the bidder to mobilize key equipment quickly by owning and leasing some equipment. The Equipment must be of the stated **Capacity** requirement and aged less than **10 years** from manufacture date. The key equipment required is listed in the Table

The Bidder must provide documentary evidence (Registration Documents) to prove ownership of the equipment and legally enforceable Lease Agreement for the equipment allowed for leasing or renting. In addition, the Bidder shall provide further details of proposed equipment using Form EQU in Section IV (Bidding Forms).

**Bids that will not provide the minimum number, capacity and ownership of each type of equipment shall be rejected.**

## Section IV - Bidding Forms

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## Letter of Bid

*INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT*

*The Bidder must prepare this Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and business address.*

*Note: All italicized text in is to help Bidders in preparing this form.*

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

**OCBI No.:** *[insert number of bidding process as per procurement plan]*

**Invitation for Bid No.:** *[insert same IFB number as advertised]*

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

**To:** *[insert complete name of Employer]*

We, the undersigned, declare that:

- (a) **No reservations:** We have examined and have no reservations to the bidding document, including Addenda issued in accordance to ITB 8;
- (b) **Eligibility of Bidder:** We, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries and meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) **Eligibility of Materials, Equipment and Services:** We meet the eligibility requirements for Materials, Equipment and Services in accordance with ITB 5;
- (d) **Bid-Securing Declaration:** We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration in the Employer's country in accordance with ITB 4.7;
- (e) **Conformity:** We offer to execute in conformity with the bidding document and in accordance with the construction schedule the following Works: *[insert a brief description of the Works]*;
- (f) **Bid Price:** The total price of our Bid, excluding any discounts offered in item (g) below is: *[Insert one of the options below as appropriate]*

*[Option 1, in case of one Contract for "Works":] Total price is: [insert the total price of the Bid in words and figures, indicating the various amounts and the respective currencies];*

Or

*[Option 2, in case of multiple lots or Option 3, in case of multiple packages each package comprising of one or more lots:] (a) Total price of each lot identifying its package number if it belongs to a package [insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies— ]; and (b) Total price of all lots (sum of all lots) [insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies];*

- (g) **Discounts:** The discounts offered and the methodology for their application are:



- (i) The discounts offered are: *[Specify in detail each discount offered.]*
- (ii) The exact method of calculations to determine the net price of each item and “Works”, and in case of multiple lots or multiple packages, net price of each item, each lot and each package after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts and ensure clarity, unambiguity, etc. in accordance with ITB 14.7];*
- (h) **Bid Validity Period:** Our Bid shall be valid for a period specified in BDS 18.1 (or as amended if applicable) from the date fixed for the Bid submission deadline specified in BDS 22.1 (or as amended if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (i) **Performance Security:** If our Bid is accepted, we commit to obtain a Performance Security *[and an Environmental and Social (ES) Performance Security, **Delete if not applicable**]* in the forms in accordance with the bidding document;
- (j) **One Bid Per Bidder:** We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other Bid(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITB 4.3, other than alternative Bids submitted in accordance with ITB 13;
- (k) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Bank or a debarment imposed by the Bank in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the Bank and other development banks. Further, we are not ineligible under the Employer’s country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (l) **State-owned enterprise or institution:** *[select the appropriate option and delete the other] [We are not a state-owned enterprise or institution] / [We are a state-owned enterprise or institution but meet the requirements of ITB 4.6];*
- (m) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the Bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

*(If none has been paid or is to be paid, indicate “none.”);*

- (n) **Binding Contract:** We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (o) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Bid, or any other Bid that you may receive;
- (p) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.
- (q) **Potential DAAB Members:** We hereby propose the following three persons, whose curriculum vitae are attached, as potential DAAB members:

Name	Address
1. ....	
2. ....	
3. ....	

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

**Name of the person duly authorized to sign the Bid on behalf of the Bidder:** \*\* [insert complete name of person duly authorized to sign the Bid]

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

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

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

Date signed \_\_\_\_\_ day of \_\_\_\_\_,  
\_\_\_\_\_

\* In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder or names of all members (partners) of JV and sign on behalf of the JV and not on behalf of only one member that has been given power of attorney.

\*\* Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid. If the Bidder is a JV, the power of attorney shall be given by the JV or by all members of the JV.

## Appendix to Bid: Schedule of Adjustment Data

(Applicable only if Prices are subject to adjustment as per ITB 18.3 (a) and Sub-Criteria 13.7 of Part A-Contract Data under PC)

[In Tables A, B, and C, below, the Bidder shall (a) indicate its amount of local currency payment, (b) indicate its proposed source and base values of indices for the different foreign currency elements of cost, (c) derive its proposed weightings for local and foreign currency payment, and (d) list the exchange rates used in the currency conversion.]

**Table A. Local Currency**

<b>Index code*</b>	<b>Index description*</b>	<b>Source of index*</b>	<b>Base value and date*</b>	<b>Bidder's related currency amount</b>	<b>Bidder's proposed weighting</b>
A	Fixed/ Non-Adjustable				20%
L	Labour (L)				
E	Equipment (E)				
F	Fuel (F)				
B	Bitumen (B)				
R	Steel Reinforcement Bar (R)				
C	Cement (C)				
<b>Total</b>					<b>1.00</b>

**Bidder will be required to specify a value of Bidder's proposed weighting, within the range specified in the Table-AB below**

**Table B. Foreign Currency (FC)**

**State type:** ..... [If the Bidder is allowed to receive payment in foreign currencies this table shall be used. If Bidder wishes to quote in more than one foreign currency (up to three currencies permitted) then this table should be repeated for each foreign currency.]

Index code	Index description	Source of index	Base value and date	Bidder's related source currency in type/amount	Equivalent in FC1	Bidder's proposed weighting
A	Fixed/ Non-Adjustable					20%
L	Labour (L)					
E	Equipment (E)					
F	Fuel (F)					
B	Bitumen (B)					
R	Steel Reinforcement Bar (R)					
C	Cement (C)					
<b>Total</b>						<b>1.00</b>

***Bidder will be required to specify a value of Bidder's proposed weighting, within the range specified in the Table-AB below***

**Table AB. Permitted Ranges of Weightings**

The sum of proposed weightings after multiplying by the respective currency percentage proportions of each index from all the currency types shall be within the ranges given in the table below.

Index code*	Factor and description	Permitted Ranges of Weightings
A	Fixed/ Non-Adjustable	20 %
L	Labour (L)	3-8 %
E	Equipment (E)	25-35 %
F	Fuel (F)	15-25 %
B	Bitumen (B)	8-15 %
R	Steel Reinforcement Bar (R)	2-5 %
C	Cement (C)	2-8 %
<b>Total</b>		<b>1.00</b>

The price adjustment will not include other than the items mentioned above and bidders are therefore advised to take this into account when preparing their bid.

**Table C. Summary of Payment Currencies****Table: Alternative A**

Name of payment currency	A Amount of currency	B Rate of exchange (Foreign currency per unit of local)	C Foreign currency equivalent $C = A \times B$	D Percentage of Total Bid Price (TBP) $\frac{100 \times C}{TBP}$
Local currency _____				
Foreign currency #1 _____		1.00		
Foreign currency #2 _____				
Foreign currency # 3 _____				
<b>Total Bid Price</b>				100.00

Provisional sums expressed in foreign currency	XXXXXXXXXX	1.00	XXXXXXXXXX	
TOTAL BID PRICE of (i) or (ii) as applicable (including provisional sum)				

## Bill of Quantities

### A. Preamble

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, General and Particular Conditions of Contract, Technical Specifications, and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices bid in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The rates and prices bid in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
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.
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, and 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.
6. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Contract documentation shall be made before entering prices against each item in the priced Bill of Quantities.
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 Engineer in accordance with Sub-Clause 13.5 and Clause 13.6 of the General Conditions.
8. The method of measurement of completed work for payment shall be in accordance with Standard Method of Measurement of the U.K. Institution of Civil Engineers

### B. Work Items

1. The Bill of Quantities usually contains the following part Bills, which have been grouped according to the nature or timing of the work:
  - Bill No. 1—General Items;
  - Bill No. 2—Earthworks;
  - Bill No. 3—Culverts and Bridges;
  - Bill No. 4—etc., as required;
  - Daywork Schedule; and
  - Summary Bill of Quantities.

2. If BDS-ITB 15.1 (a) applies, Bidders shall price the Bill of Quantities in local currency only and shall indicate in the Appendix to Bid the percentage expected for payment in foreign currency or currencies. If BDS-ITB 15.1 (b) applies Bidders shall price the Bill of Quantities in the applicable currency or currencies.

## C. Units of Measurement

The following units of measurement and abbreviations are recommended for use

Unit	Abbreviation	Unit	Abbreviation
cubic meter	m <sup>3</sup> or cu m	millimeter	mm
hectare	ha	month	mon
hour	h	number	nr
kilogram	kg	square meter	m <sup>2</sup> or sq m
lump sum	sum	square millimeter	mm <sup>2</sup> or sq mm
meter	m	week	wk
metric ton (1,000 kg)	t		



## BILL OF QUANTITIES

### Bill 1: PRELIMINARY AND GENERAL

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
1300	CONTRACTOR'S ESTABLISHMENT ON SITE				
PS13.01	Contractor's General Obligations				
(a)	Fixed Obligations	L.S.			
(b)	Value Related Obligations	L.S.			
(c)	Time Related Obligations	Month	18		
PS13.02	Compensation to Local Population				
	(a) Compensation for relocation of Services.	P.S.	1	8,562	8,562
	(b) Handling costs and profits in respect of sub-item PS13.02(a) (state as % and extend as an amount)	%		%	
PS 13.03	Relocation of Water Utilities				
(a)	Provisional Sum for Relocation of Water Utilities	P.S.	1	30,822	30,822
(b)	Handling costs and profits in respect of sub-item PS13.03(a) (state as % and extend as an amount)	%		%	
PS 13.04	Relocation of Telecommunications Services				
(a)	Provisional Sum for Relocation of Telecommunications Services	P.S.	1	8,134	8,134
(b)	Handling costs and profits in respect of sub-item PS13.04 (a) (state as % and extend as an amount)	%		%	
PS 13.05	Relocation of Electricity Services				
(a)	Provisional sum for relocation of electricity services	P.S.	1	51,370	51,370
(b)	Handling costs and profits in respect of sub-item PS13.05 (a) (state as % and extend as an amount)	%		%	

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
PS13.06 (a)	AIDS Awareness Training Training	P.S.	1	15,154	15,154
(b)	Remuneration of the workers undergoing training	P.S.	1	3,082	3,082
(c)	Handling costs and profit in respect of sub-items PS13.06(a) and (b) (% and extend as an amount)			%	
	Carried forward to Next Page				
	Brought Forward from Previous Page				
PS13.07 (a)	Public Awareness Programmes Television and Radio Broadcast and Print Media Publications	P.S.	1	15,154	15,154
(b)	Handling costs and profit in respect of sub-items PS13.07(a) (stated as % and extend as an amount)	%		%	
PS13.08 (a)	Dispute Review Board Payments to the Dispute Review Board members for their consulting services	P.S.	1	12,842	12,842
(b)	Handling costs and profit in respect of sub-items PS13.08(a) (stated as % and extend as an amount)	%		%	
PS13.09	Project Signboard Providing, erecting and maintenance of sign boards and their removal on completion of the contract	No	2		
1300	TOTAL CARRIED TO MAIN SUMMARY				
1400	HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL				

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
PS14.01	Office and Laboratory Accommodation				
(a)	Office building as specified	L.S.			
(b)	Laboratory building as specified	L.S.			
PS14.02	Office and Laboratory Furniture				
(a)	Office furniture as specified in the Particular Specifications	L.S.			
(b)	Laboratory furniture as specified in the particular Specifications	L.S.			
PS14.03	Office and Laboratory Fittings, installations and equipment				
(a)	Office fittings, installations and equipment (except computers)	L.S.			
(b)	Laboratory fittings as specified in the particular Specifications	L.S.			
PS14.04	Car Ports				
	Car Ports as Specified, at offices and laboratory buildings	No	10		
	Carried forward to Next Page				
	Brought Forward from Previous Page				
PS14.07	Rented, hotel and other accommodation				
(a)	Provisional sum for providing rented housing, hotel or other accommodation as described in sub-clause 1403 (c) (ii)	P.S.	1	42,808	42,808
(b)	Provision sum for providing rented offices temporarily	P.S.	1	34,675	34,675
(c)	Handling costs and profit in respect of sub-items 14.07(a) & 14.07(b) (stated as % and extend as an amount)	%		%	

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
PS14.08	Services:				
(a)	Services at offices and laboratories				
(i)	Fixed costs	L.S.			
(ii)	Running costs	Month	18		
(b)	Services for prefabricated houses(11 Nos)				
(i)	Fixed costs	L.S.			
(ii)	Running costs	Month	21		
(c )	Services for rented houses	Month	3		
PS14.13	The Engineer's prefabricated houses				
(a)	(i) Type I	No	2		
(b)	(ii) Type II	No	5		
(c)	(iii) Type III	No	4		
PS14.15	Survey equipment for use by the Engineer				
(a )	Survey equipment for use by the Engineer	L.S.			
PS14.16	Vehicles for Engineer's Staff				
(a)	Supply of vehicles:				
	(i) Supply of double cabin 4x4 vehicles High Rider	No	4		
	(ii) Supply of Single cabin 4x4 vehicles High Rider	No	6		
(b)	Operation and maintenance of Engineer's Vehicle				
	(i) Double cabin 4x4 vehicles High Rider as Specified	Vehicle x Month	72		
	(i) Single cabin 4x4 vehicles High Rider as Specified	Vehicle x Month	108		
PS14.19	Security at Engineer's Offices, Laboratory, and Houses.	Month	18		

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
	Carried forward to Next Page				
	Brought Forward from Previous Page				
PS14.20	Provision of semi-skilled labour for use by the Engineer				
(a)	Provision of labourers	P.S.	1	60,616	60,616
(b)	Handling costs and profit in respect of sub-item PS14.20 (a) (stated as % and extend as an amount)	%		%	
PS14.21	Supply of consumables items to Engineer's Office ,Laboratory and House 's				
(a)	Supply of consumables items to Engineer's Office ,Laboratory and Engineer's representative house as ordered by the Engineer	Month	24		
(b)	Handling costs and profit in respect of sub-item PS14.21(a)	%		%	
PS14.22	Supply of office consumables and stationery				
(a)	Supply of office stationery as ordered by Engineer	P.S.	1	16,524	16,524
(b)	Handling costs and profit in respect of Subitem PS14.22(a) above (stated as % and extend as an amount)	%	1	%	
1400	TOTAL CARRIED TO MAIN SUMMARY				

TEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
1500	ACCOMMODATION OF TRAFFIC				
PS15.01	Accommodating Traffic and maintaining the diversions	km	54		
1500	TOTAL CARRIED TO MAIN SUMMARY				
1700	CLEARING AND GRUBBING				
PS17.01	Clearing and grubbing	Ha	108		

TEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (USD)
17.02	Removal and grubbing of large trees and tree stumps				
(a)	Girth larger than 1.0m up to and including 2.0m	No	197		
(b)	Girth larger than 2.0m up to and including 3.0m	No	117		
PS17.04	Treatment of ant or termite holes with insecticide	m <sup>2</sup>	5,110		
PS17.05	Demolition of existing concrete structures				
(a)	Masonry	m <sup>3</sup>	1,000		
(b)	Concrete structures	m <sup>3</sup>	813		
(C)	Gabions	m <sup>3</sup>	600		
(d)	Kerbs	m	2,903		
1700	TOTAL CARRIED FORWARD TO SUMMARY				

## Bill No. 2: Road works

2100	DRAINS				
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 <sup>3</sup>	111,754		
(ii)	Exceeding 1.5 m and up to 3.0 m	m <sup>3</sup>	3,991		
21.02	Clearing and shaping existing open drains	m <sup>3</sup>	5,625		
21.03	Excavation for subsoil drainage systems				
(a)	Excavating soft material situated within the following depth ranges below the surface level:				
(i)	0 m up to 1.5 m	m <sup>3</sup>	6,000		
(b)	Extra over Subitem 21.03(a) for excavation in hard material irrespective of depth	m <sup>3</sup>	1,800		
21.1	Banks and dykes	m <sup>3</sup>	408		
21.06	Natural permeable material in subsoil drainage systems (crushed stone):				
(a)	Crushed stone obtained from approved sources on site (state grade):	m <sup>3</sup>	1,246		
21.07	Natural permeable material in subsoil drainage systems ( sand):				
(a)	Sand obtained from approved sources on the site (state grade)	m <sup>3</sup>	540		
21.08	Pipes in subsoil drainage systems:				

(b)	Unplasticised PVC pipes and fittings, normal duty, complete with couplings (state size whether or not perforated or slotted)	m	1,200		
21.09	Polyethethlene sheeting, 0.15 mm thick or similar approved material, for lining subsoil drainage systems	m <sup>2</sup>	14,400		
21.10	Grade 3 Synthetic-fibre filter fabric	m <sup>2</sup>	6,219		
21.11	Composite in-plane drainage systems as per drawing	m	285		
21.18	Excavation for the clearing of existing drainage systems:				
(a)	Manholes and inlet and outlet structures	m <sup>3</sup>	4,556		
(b)	Culvert barrels	m <sup>3</sup>	1,693		
21.19	Selected backfill material under concrete-lined side drains, compacted to 93 % of modified AASHTO density	m <sup>3</sup>	638		
PS21.20	Backfill existing drains within road prism	m <sup>3</sup>	630		
2100	TOTAL CARRIED TO MAIN SUMMARY				-
2200	PREFABRICATED CULVERTS				
22.01	Excavation				
(a)	Excavating soft material situated within the following depth ranges below the surface level:				
(i)	0m up to 1.5m	m <sup>3</sup>	16,679		
(ii)	Exceeding 1.5m and up to 3.0m	m <sup>3</sup>	9,647		
(b)	Extra over Subitem 22.01(a) for excavation in hard material, irrespective of depth	m <sup>3</sup>	3,756		
22.02	Backfilling				
(a)	Using the excavated material	m <sup>3</sup>	9,957		



(b)	Using imported selected material	m <sup>3</sup>	3,627		
(c)	Extra over Subitems 22.02(a) and (b) for soil cement backfilling (3% cement)	m <sup>3</sup>	2,031		
22.03	Concrete pipe culverts				
(a)	On Class A bedding precast concrete pipe				
(i)	600mm diameter	m	10		
(iii)	900mm diameter	m	379		
(iv)	1200mm diameter	m			
(b)	On Class B bedding (Spigot and socket pipes, SABS 677, Class 50D culverts)				
(i)	600mm diameter	m	641		
(ii)	900mm diameter	m	4,023		
22.06	Extra over items 22.03, 22.04 and 22.05 for constructing inclined culverts	m	170		
22.07	Cast in situ concrete				
(a)	(i) On Class A bedding, screeds and the encasing for pipes, including formwork of class 20/19 (ii) Blinding concrete for floor slab with 15cm thickness. Class 15/20	m <sup>3</sup> m <sup>3</sup>	834 629		
(c)	In inlet and outlet structures , catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surface finish (class 25/19 concrete)	m <sup>3</sup>	3,147		
(d)	Formwork of concrete under Item 22.07(c):				
(i)	to provide Class F2 finish to all sides of culvert head and wing walls, apron slab keys, infill concrete between cells and wing wall				

	footings and inlet & outlet structures	m <sup>2</sup>	12,669		
22.10	Steel reinforcement				
(b)	High-tensile steel bars	t	599		
(c)	Welded steel fabric	kg			
22.12	Removing existing concrete				
(a)	Plain concrete	m <sup>3</sup>	1,700		
(b)	Reinforced concrete	m <sup>3</sup>	655		
PS22.14	Removing and stacking existing culverts of all sizes and types	m	2,673		
22.23	Service ducts				
(a)	Ordinary pipes (PVC, not exceeding 300mm diameter)	m	2,632		
22.24	Duct marker blocks as per drawings	No	376		
2200	TOTAL CARRIED TO MAIN SUMMARY				
2300	CONCRETE KERBING, CONCRETE CHANNELING, OPEN CONCRETE CHUTES AND CONCRETE LININGS FOR OPEN DRAINS				
23.01	Concrete Kerbing (Class 25 for cast in situ concrete)				
(c)	Figure 3	m	2,921		
(d)	Figure 8c	m	9,712		
23.02	Concrete kerbing- channeling combination				
(b)	Fig 3 and 14 combination, concrete class 25/19	m	7,650		
23.03	Concrete chutes (as per standard drawings)				
(a)	Cast in situ Concrete Class 25/19	m	2,209		
23.04	Cast in situ concrete chutes (measured by components)				
(a)	Concrete class 25/19	m <sup>3</sup>	1,215		
(b)	Formwork, F2 surface finish	m <sup>2</sup>	3,865		

23.05	Inlet, outlet, transition and similar structures (as per standard drawings)				
(a)	Open chutes, Type 2 (as per standard drawings)	No	388		
23.07	Trimming of excavations for concrete-lined open drains				
(a)	In soft material	m <sup>2</sup>	2,723		
(b)	In hard material	m <sup>2</sup>	1,936		
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 <sup>2</sup>	2,614		
(ii)	100mm thick to horizontal surfaces	m <sup>2</sup>	790		
23.11	Concrete screed or backfill below chutes, Concrete Class 15/19	m <sup>3</sup>	182		
23.12	Steel reinforcement				
(b)	High tensile steel bars	t			
(c)	Welded steel fabric	kg	20,997		
23.13	Polyethylene sheeting (0,15 mm thick) for concrete-lined open drains	m <sup>2</sup>	3,403		
23.14	Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete line drains	m	9,858		
23.15	Precast concrete blocks in outlet structures	No	388		
PS23.16	Access bridges (as per standard drawings)				
(a)	Pedestrian bridges				

(i)	Type 1	No	130		
(ii)	Type 2	No	87		
(b)	Vehicular bridges				
(i)	Type 1	No	35		
(ii)	Type 2	No	35		
PS23.21	Covered Rectangular Drain as per Drawing (including Precast cover, formworks ,reinforcements ,Inlet at 10m interval of the road side)				
(a)	Rectangular Drain	m	7,700		
(b)	Extra over precast covers for Rectangular Drain				
(i)	Panels with grates and frame	No	264		
(ii)	Panels with lifting hooks at the specified interval	No	633		
PS23.22	Concrete Pavements				
(a)	Cast in situ concrete Pavement for Storm Water Drainage in Class 20/19,including formworks and reinforced with mesh Ref 617.	m <sup>3</sup>	1,455		
PS 23.23	Cast insitu stone masonry check dam (Typical design as shown in the drawings	No	2,914		
2300	TOTAL CARRIED TO MAIN SUMMARY				
2500	PITCHING, STONEMWORK AND PROTECTION				
	AGAINST EROSION (2500)				
25.01	Stone pitching:				
(b)	Grouted stone pitching	m <sup>2</sup>	59,522		
PS25.03	Stone Masonry Walls				
	(b) Cement mortared stone	m <sup>3</sup>	743		
25.05	Concrete edge beams in				
(a)	Class 30/19 beams (300 wide x 200 high)	m <sup>3</sup>	1,019		
25.07	Foundation trenches	m <sup>3</sup>	2,316		
2500	TOTAL CARRIED TO MAIN SUMMARY				

2600	GABIONS				
26.01	Foundation trench excavation and backfilling				
(a)	In solid rock (material requiring blasting) including surface preparation for bedding gabions	m <sup>3</sup>	754		
(b)	In all other classes of material	m <sup>3</sup>	2,801		
26.02	Surface preparation for bedding the gabions	m <sup>2</sup>	3,669		
26.03	Gabions:				
(a)	Galvanised gabion boxes				
	(i) Galvanised Gabion boxes (Length 1000 mm, width 1000 mm and depth 1000 mm, nominal diameter of mesh wire 2,7 mm, and mesh size 80 mm x 100 mm)	m <sup>3</sup>	1,284		
	(ii) Galvanised Gabion boxes (Length 2000 mm, width 1000 mm and depth 1000 mm, nominal diameter of mesh wire 2,7 mm, and mesh size 80 mm x 100 mm)	m <sup>3</sup>	952		
(b)	PVC-coated gabion Boxes				
	(i) PVC-coated gabion Boxes (Length 1000 mm, width 1000 mm and depth 1000 mm, nominal diameter of mesh wire 2,7 mm, and mesh size 80 mm x 100 mm)	m <sup>3</sup>	1,827		
(c)	(ii) PVC-coated gabion Boxes (Length 2000 mm, width 1000 mm and depth 100 mm, nominal diameter of mesh wire 2,7 mm, and mesh size 80 mm x 100 mm)	m <sup>3</sup>	1,827		
(d)	PVC-coated gabion mattresses (Length 6000 mm, width 2000 mm and depth 300 mm, nominal diameter of mesh wire 2,7 mm, and mesh size 80 mm x 100 mm)	m <sup>3</sup>	948		
26.04	Filter fabric (Kaymat geotextile Grade U34 or similar approved)	m <sup>2</sup>	6,806		
2600	TOTAL CARRIED TO MAIN SUMMARY				
3300	MASS EARTHWORKS				

PS33.01	Cut and borrow to fill including unlimited free haul:				
(a)	Gravel material in compacted layer thicknesses of 200mm and less:				
(i)	Compacted to 90% modified AASHTO density	m <sup>3</sup>	38,856		
(ii)	Compacted to 93% modified AASHTO density	m <sup>3</sup>	259,135		
(iv)	Compacted to 95% modified AASHTO density	m <sup>3</sup>	340,278		
(v)	Sand filter blanket	m <sup>3</sup>	600		
PS33.03	Extra over Item 33.01 for excavating and breaking down material in:				
(a)	Hard material	m <sup>3</sup>	5,596		
PS33.04	Cut to spoil, including unlimited free haul, material obtained from				
(a)	Soft excavation	m <sup>3</sup>	189,155		
(b)	Hard excavation	m <sup>3</sup>	5,771		
PS33.07	Removal of unsuitable material obtained from any type of material and excavation at any layer thickness, unlimited free haul	m <sup>3</sup>	18,000		
PS33.08	Widening of cuts (Extra over Items 33.01 and 33.04):				
(a)	In hard materials	m <sup>3</sup>	9,613		
(c)	In all other materials	m <sup>3</sup>	2,403		
33.10	Roadbed preparation and the compaction of materials:				

(a)	Compacted to 90% modified AASHTO density	m <sup>3</sup>	86,877		
33.13	Finishing-off cut and fill slopes, medians and interchange areas				
	Cut slopes	m <sup>2</sup>	40,315		
(b)	Fill slopes	m <sup>2</sup>	50,393		
PS33.14	River Training	m <sup>3</sup>	103,110.00		
3300	TOTAL CARRIED TO MAIN SUMMARY				
3400	PAVEMENT LAYERS IN GRAVEL MATERIAL				
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, up to 200mm thick, compacted to:				
(ii)	93% modified AASHTO density	m <sup>3</sup>	106,642		
(c)	Gravel subbase (unstabilised gravel) compacted to:				
(ii)	95% of modified AASHTO density up to 200mm thick layer	m <sup>3</sup>	102,462		
34.03	Pavement layers constructed from gravel obtained from existing layers:				
(a)	Gravel selected layer compacted to 93% of modified AASHTO density, using:				
(i)	Non-cemented material up to 150mm thickness	m <sup>3</sup>	8,442.00		
(e)	Gravel subbase compacted to 97% of modified AASHTO density, using:				
(i)	non-cemented material up to 200mm thickness	m <sup>3</sup>	5,683		

34.04	In situ reconstruction of existing pavement layers as:				
(d)	Gravel subbase compacted to 97% modified AASHTO density, using:				
(ii)	non-cemented material to 200mm thickness	m <sup>3</sup>	33,682		
3400	TOTAL CARRIED TO MAIN SUMMARY				
3600	CRUSHED STONE BASE OR SUBBASE				
36.01	Crushed Stone Base:				
(a)	Constructed from crushed stone obtained from commercial sources and compacted to 102% of modified AASHTO density	m <sup>3</sup>	130,801		
(c)	Constructed from existing crushed stone base course materials compacted to 102% modified AASHTO density, 37mm nominal maximum aggregate size.	m <sup>3</sup>	1,250.00		
3600	TOTAL CARRIED TO MAIN SUMMARY				
3800	BREAKING UP EXISTING				
38.01	Excavating and removing existing bituminous material (except milled material):				
(a)	Material to be disposed of with the average depth of excavation:				
	(ii) Exceeding 30 mm but not exceeding 60mm	m <sup>2</sup>	346,382.00		
	(ii) Exceeding 60mm	m <sup>2</sup>	Rate Only		
3800	TOTAL CARRIED TO MAIN SUMMARY				
4100	PRIME COAT				
41.01	Prime coat:				
(c)	MC-30 cut back bitumen	litre	634,304		
41.02	Aggregate for blinding	m <sup>2</sup>	41,250.00		
41.03	Extra over item 41.01 for applying the prime coat in areas accessible only to hand equipment	litre	3,649		



4100	TOTAL CARRIED TO MAIN SUMMARY					-
4200	ASPHALT BASE AND SURFACING					
42.02	Asphalt surfacing, thickness as specified in Drawing, using 50/70 penetration grade bitumen, including binder and active filler variations:					
a)	(ii) Continuously graded, medium 50 mm thick	m <sup>2</sup>	636,966			
42.03	Tack coat of 30% stable-grade emulsion	litre	114,654			
42.04	Binder Variations					
(a)	Penetration grade bitumen 50/70	t	50.00			
42.06	Trial Sections, 50mm thick	m <sup>2</sup>	1,078.00			
42.07	100mm diameter cores in asphalt paving	No	109.00			
4200	TOTAL CARRIED TO MAIN SUMMARY					
48.00	4800: SURFACING OF BRIDGE DECKS					
48.01	Surfacing on bridge deck (material as specified)	t	148			
4800	TOTAL CARRIED TO SUMMARY					
5100	MARKER AND KILOMETRE POSTS					
51.01	Marker posts	No	138.00			
PS51.02	Kilometre Post in Class 20/20 Concrete	No	55.00			
PS51.03	Road reserve demarcation beacons	No	542.00			
5100	TOTAL CARRIED TO MAIN SUMMARY					
5200	GUARDRAILS					
PS52.13	Galvanized and painted guardrails on concrete posts including end units and reflective plates as per drawings	m	10,871			
5200	TOTAL CARRIED TO MAIN 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 pre-painted galvanized steel plate (Chromadek or approved equivalent) position as shown on the drawings:				
(a)	Area not exceeding 2m2	m <sup>2</sup>	462.16		
(b)	Area exceeding 2m2 but not 10m2	m <sup>2</sup>	200.11		
(c)	Area exceeding 10m2	m <sup>2</sup>	40.00		
54.09	Dismantling and storing road signs with a surface area of:				
(a)	Up to 2 m <sup>2</sup>	No	39.00		
(b)	Exceeding 2 m <sup>2</sup> but not 10 m <sup>2</sup>	No	Rate Only		
PS54.10	Erection of Standard Road signs	No	572.00		
5400	TOTAL CARRIED TO MAIN SUMMARY				
5500	ROAD MARKINGS				
55.03	Hot melt plastic road-marking material				
(a)	100mm wide white lines (broken or unbroken)	km	57		
(b)	100mm wide yellow lines (broken or unbroken)	km	117.09		
(d)	White lettering and symbols	m <sup>2</sup>	562.05		
(f)	Traffic island markings (any colour)	m <sup>2</sup>	912.05		
55.05	Road studs as specified	No	6,986.00		
55.06	Setting out and premarking the lines (Excluding traffic-island				
	markings, lettering and symbols)	km	163		
55.07	Re-establishment of the painting unit for re-marking the road at the end of the maintenance	L.S.			
PS 55.10	Supply and install rumble strips	m	1,882		

PS 55.11	Construction of Speed humps as per Standard drawing				
	Traffic Hump				
(i)	Traffic Humps 5m wide across full width of the road	No	16.00		
5500	TOTAL CARRIED TO MAIN SUMMARY				
5700	LANDSCAPING AND GRASSING				
PS57.01	Trimming and shaping by hand and/or machine	km	32		
57.04	Grassing				
(c )	Hydroseeding:				
	(i) Providing an approved seed mixture for hydroseeding	kg	3,581		
	(ii) Hydroseeding	ha	14		
	(e) Hand sowing	m <sup>2</sup>	9,472		
57.05	Watering the grass when established by topsoiling only	kl	158		
57.06	Watering the already planted grass, trees, and shrubs during periods of drought experienced during the growing season	kl	200		
57.07	Mowing the Grass	Ha	44		
PS57.12	Paving sidewalks with interlocking bricks:				
(a)	On Traffic Island with 60mm thick, 25Mpa interlocking bricks	m <sup>2</sup>	17,343		
(b)	30mm thick sand bedding for interlocking bricks	m <sup>2</sup>	17,343		
PS 57.14	Street Lighting				
(a)	Provide Solar Street lighting in towns and trading centers including all material, Installation and commissioning of solar powered street lighting as instructed by the Engineer	No	257		
5700	TOTAL CARRIED TO MAIN SUMMARY				
6900	BUS BAYS AND TRUCK LAY-BYS				

PS69.01	Concrete Pavements for Bus Bays				
(a)	Class 30/19 cast in situ concrete reinforced with mesh Ref 617 in Bus bays,including any other works, operation or activity necessary for completing the bus bay platform in compliance with the specifications and drawings	m <sup>3</sup>	915		
(b)	Construct Bus Shelters	No	24		
6900	TOTAL CARRIED TO MAIN SUMMARY				
7100	TESTING OF MATERIALS AND WORKMANSHIP				
71.02	Other special tests requested by the Engineer:				
(a)	Cost of testing	P.S.	1.00	5,137	5,137
(b)	Charge on prime cost sum	%		%	
7100	TOTAL CARRIED TO MAIN SUMMARY				

## Bill No. 3: Culverts and Bridges

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
61.00	6100: FOUNDATIONS FOR STRUCTURES				
61.01	(a) Additional foundation investigations	P. S.	1.0	145,479	145,479
61.01	(b) Handling cost and profit in respect of Sub-item 1/61.01(a)	%		%	
61.02	Excavation:				
	(a) Excavating soft material situated within the following successive depth ranges:				
	(i) 0 m up to 2 m	m <sup>3</sup>	7,390.3		
	(ii) Exceeding 2 m and up to 4 m	m <sup>3</sup>	2,188.1		
	(iii) Exceeding 4 m and up to 6 m	m <sup>3</sup>	771.4		
	(b) Extra over sub-item 61.02(a) for excavation in hard material irrespective of depth	m <sup>3</sup>	1,807.5		
	(c) Extra over sub-item 61.02(a) for additional excavation required by the engineer after the excavation has been completed	m <sup>3</sup>	2,604.2		
	(d) Extra over sub-item 61.02(a) for excavation by hand	m <sup>3</sup>	244		
61.03	Access and drainage:				
	(a) Access	L.S.	6.0		
	(b) Drainage where no access has been provided	L.S.	4.0		
61.04	Backfill to excavations utilizing:				
	(a) Material from the excavation	m <sup>3</sup>	4,820.1		
	(b) Imported material	m <sup>3</sup>	4,102.8		
61.05	Fill within a restricted area (extra over item 33.01)	m <sup>3</sup>	4,092.4		
61.08	Foundation fill consisting of:				

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
61.11	(a) Rock fill	m <sup>3</sup>	7,574.9		
	(b) Mass Concrete of class C20/19	m <sup>3</sup>	1,597.8		
	(c) Compacted granular material in and around abutments	m <sup>3</sup>	6,275.3		
	Drilling of holes 75mm in diameter 5m deep into rock for dowel bars.	m	335.0		
61.12	Non-shrink cementitious grout for pile dowel bars.	kg	888.0		
61.14	Foundation lining (Bitumen emulsion ECR1 (C60B3))	m <sup>2</sup>	5105.29		
61.15	Establish piling plant on site	L.S.			
61.16	Moving, to and setting up the equipment at each position for installing the piles	No	34.0		
61.17	Augured or bored holes for piles with a diameter of 600 mm through material situated within the following successive depth ranges: (a) Augured holes				
61.18	(i) 0 m up to 10 m	m	340.0		
	(ii) Exceeding 10 m and up to 15 m	m	170.0		
	(iii) Exceeding 15 m and up to 20 m	m			
	E/O (a) above for additional length on vertical piles ordered by the Engineer	m	51.0		
61.21	Driving the temporary casing for driven displacement piling systems for forming holes for piles with a diameter of 600 mm through material situated within the following successive depth ranges: (a) 0 m up to 10 m	m	340.0		
	(b) Exceeding 10 m and up to 15 m	m	170.0		
	E/O 1/61.18 above for additional length on vertical piles ordered by the Engineer	m	51.0		
	Extra over item 61.17, irrespective of the depth, to form augered and bored pile holes through identified obstructions consisting of:				
61.22	(a) Coarse gravel with a matrix content of less than 25 %	m	56.1		
	(b) Loose boulders no more than 300mm dia.	m	56.1		
	(c) diabase rock formation up to class R4	m	28.1		
61.22	Forming augured and bored pile holes through unidentified obstructions	P.S.	1.0	5,136.99	5,136.99

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
61.28	Installing and removing temporary casings in augured holes for piles of (600 mm dia.)	m	136.0		
61.29	Installing permanent pile casing for piles of (600 mm dia.)	m	102.0		
61.30	Steel reinforcement in cast in situ piles:				
61.31	(b) High-yield-stress-steel bars	MT	57.50		
	(iii) E/O (b) for additional length (Provisional)	MT	8.75		
	(a) Cast in situ concrete in piles, Class 30/19 concrete	m <sup>3</sup>	180.2		
	(b) E/O (a) above for additional length on vertical piles ordered by the Engineer	m <sup>3</sup>	18.0		
61.32	Extra over item 61.31 for concrete cast under water	m <sup>3</sup>	18		
61.34	Stripping/cutting the pile heads		34.0		
		No			
61.35	Establishment on the site for the load testing of piles	L.S.	1.0		
61.36	Test loading of piles (provisional)	No	4.0		
6100	TOTAL CARRIED TO SUMMARY				
62.00	6200: FALSEWORK, FORMWORK AND CONCRETE FINISH				
62.02	Vertical formwork to provide: (a) Class F1 surface finish to:				
	(i) Abutment and pier pile caps	m <sup>2</sup>	2,862.43		
	(ii) Box Culverts	m <sup>2</sup>	1,345.51		
	(b) Class F2 surface finish to:				
	(i) Abutment stems, backwall and wingwalls	m <sup>2</sup>	2,738.57		
	(ii) End diaphragms (Fixed and Expansion)	m <sup>2</sup>	535.74		
	(iii) R.C. Deck	m <sup>2</sup>	711.04		
	(iv) Crash barriers and parapet walls	m <sup>2</sup>	93.39		
	(v) Box Culverts	m <sup>2</sup>	3,363.78		

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
62.03	Horizontal formwork to provide:				
	(a) Class F2 surface finish to:				
	(i) R.C. Deck	m <sup>2</sup>	2,995.19		
	End diaphragms (Fixed and Expansion)	m <sup>2</sup>	84.94		
	(iii) Box Culverts	m <sup>2</sup>	1,340.56		
62.04	Inclined formwork to provide:				
	(a) Class F2 surface finish to:				
	(i) Wingwalls	m <sup>2</sup>	778.97		
	Crash barriers and parapet walls	m <sup>2</sup>	149.14		
	(iii) Deck	m <sup>2</sup>	646.64		
	(iv) Box Culverts	m <sup>2</sup>	2,018.27		
6200	TOTAL CARRIED TO SUMMARY				
63	6300: STEEL REINFORCEMENT FOR STRUCTURES				
63.01	(i) Mild steel reinforcement for:				
	(a) Parapets and end blocks	t	1.90		
	(b) PC beams		32.59		
	(c) Box Culverts		0.00		
	High-yield-stress-steel reinforcement for:				
	(a) Parapets and end blocks	t	35.96		
	(b) PC beams	t	269.11		
	(c) Transverse beams	t	29.23		
	(d) Jockey slab	t	21.96		
	(e) Abutments	t	191.36		
	(f) Wingwalls	t	66.47		
	(g) Foundations	t	216.08		
	Piers	t	30.12		
	(i) Deck Slab	t	126.46		
	(h) Box Culverts	t	323.40		
6300	TOTAL CARRIED TO SUMMARY				
64.00	6400: CONCRETE FOR STRUCTURES				
64.01	Cast in situ concrete				



BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
64.02	(a) Class 15/19 concrete for blinding under				
	(i) Abutment, Piers, piles and Wing walls	m <sup>3</sup>	848.03		
	(ii) Box Culverts	m <sup>3</sup>	465.60		
	(b) Class 30/19 concrete for				
	(i) Foundation	m <sup>3</sup>	1,455.21		
	(ii) Abutments	m <sup>3</sup>	1,217.57		
	(iii) Piers	m <sup>3</sup>	478.98		
	(iv) Jockey slabs	m <sup>3</sup>	84.94		
	(v) Wing Wall	m <sup>3</sup>	636.09		
	(vi) Sidewalks	m <sup>3</sup>	85.21		
	(vii) Box Culverts	m <sup>3</sup>	2,727.81		
	(c) Class 40/19 concrete for				
	(i) Transverse beams	m <sup>3</sup>	111.88		
64.03	(ii) Deck	m <sup>3</sup>	551.85		
	(iii) Crash barriers	m <sup>3</sup>	103.05		
64.06	Manufacturing of precast concrete members, Class 40/19 Concrete				
	(i) Precast concrete beams, 1.4 m high, 20 m long	No	40.00		
64.03	(ii) Precast concrete beams, 0.915 m high, 15.65m long	No	8.00		
	Precast planks (Approx. 126 kg, 0.058 m <sup>3</sup> concrete, 7 kg rebar, Size 75x495x1,550 mm)	No	1,680.00		
	Transportation and erection of precast concrete members				
	(i) Precast concrete beams, as per approved Drawing	No	48.00		
	(ii) Precast planks as per approved drawing	No	1,680.00		
64.06	Demolishing existing concrete				
	(a) Plain Concrete	m <sup>3</sup>	0.00		
	(b) Reinforced Concrete	m <sup>3</sup>	1,447.50		
6400	TOTAL CARRIED TO SUMMARY				

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
6500	PRESTRESSING :				
PS65.04	Prestressing Tendons ( viz. installing of 19 T 13 PSC strand with HDPE sheathing, grouting and stressing with all)	MT	33.60		
6500	TOTAL CARRIED TO SUMMARY				0.00
66.00	6600: NO-FINES CONCRETE, JOINTS, BEARINGS, PARAPETS AND DRAINAGE FOR STRUCTURES				
66.01	Cast in-situ no fines concrete				
	Class NF 20 no fines concrete behind abutments including provision of geotextile bidum filter material for drainage	m <sup>3</sup>	64.57		
66.03	Proprietary expansion joints:				
	Prime cost sum allowed for purchasing and taking delivery of expansion joints	P.S.	1.00	25,570.78	25,570.78
	Handling costs and profit in respect of Subitem 66.03(a) above (stated as % and extend as an amount)	%		%	
66.04	Installation of proprietary expansion joints				
	Compression Seal Type DS Brown (CU-2000) or Watson Bowman ACME WS 200 or similar approved	m	180.18		
64.06	Demolishing existing concrete				
	(a) Plain Concrete				
	(b) Reinforced Concrete	m <sup>3</sup>	0.00		
66.06	Filled joints				
	a) 10mm joint filler :				
	i) Joint between jockey slabs and abutments	m	327.05		
66.09	Proprietary bearings:				
	Prime cost sum allowed for purchasing and taking bearings	Prov. Sum	1.00	44,520.55	44,520.55
	Percentage on prime cost sum for charges and profit	%	1.00		

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
66.11	Installation of proprietary bearings				
	(a) EKSpan EKR Series elastomeric bearings or similar approved	No	96.00		
	(b) Plain Elastomeric Bearing Pad on Fixed Abutment (hrt=50mm)	No	96.00		
66.13	Bearing strips:				
	Three layers of 3 ply Roofing felt at approach slab	m <sup>2</sup>	30.89		
66.14	Dowels/guides				
	a) R12 Stainless steel anchors (1300 mm long) wrapped in 4 mm thick denso tape securing jockey slab to abutment	No	524.80		
	b) R25 Stainless steel anchors (1300mm long) wrapped in 10mm thick denso tape securing deck to piers as detailed	No	335.00		
66.15	BRIDGE PARAPETS, RAILINGS AND FOOTPATHS				
	Bridge parapets/ metal railings				
	i) Cast in-situ concrete parapet complete with service ducts as detailed on the drawings	m	1,405.30		
66.17	End blocks	No	12.00		
66.18	Number for structures				
	a) Number plates	No	12.00		
66.19	Drainage pipes and weep holes				
	(a) Drainage pipes				
	100mm int. dia. - 1800mm long uPvc socketed deck drainage pipe with 150mm soffit projection and cut flush with concrete deck surface	m	1,028.00		
	(ii)				
	(b) Weepholes				
	75mm int. dia. - 385mm long uPvc drainage pipe cut flush with concrete abutment surface	m	784.00		
PS66.22	Mechanically Stabilized Earth (MSE) Walls				
	Construction of MSE Walls including supply and installation of precast panels, reinforcement strips, bearing pads, concrete levelling pad, geotextile filter	m <sup>2</sup>	7,567.60		
	(i)				

BILL ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (USD)	AMOUNT (MK)
	fabric and concrete coping as per DWGs  Extra over standard fill items for the construction of fills with soil (ii) reinforcement	m <sup>3</sup>	26,325.00		
6600	TOTAL CARRIED TO SUMMARY				

BILL 4: ENVIRONMENTAL AND SOCIAL IMPACT MITIGATION					
ITEM	DESCRIPTION	UNIT	QTY	RATE (USD)	AMOUNT (USD)
PS80.00	ENVIRONMENTAL AND SOCIAL IMPACT MITIGATION				
PS80.01	Provide Health/safety and Environmental Liaison Officer for full				
	period of the project	Month	24		
PS80.02	Allow for the undertaking and implementation of all				
	the requirements of the Environmental Management				
	Plan as described in Clause 8300 and full compliance				
	with Series 8000 of the specifications	L. Sum	1		
PS80.03(a)	Provide assistance and environmental training to staff	Prov. Sum	1	25,684.93	25,684.93
PS80.03(b)	Handling costs and profit in respect of Subitem 80.03(a) above (stated as % and extend as an amount)	%			
PS80.07(a)	Provide assistance and Road Safety training to staff	Prov.Sum	1	6,849.38	6,849.38
PS80.07(b)	Handling costs and profit in respect of Subitem 80.07(a) above (stated as % and extend as an amount)	%			

## Daywork Schedule

### General

1. Reference should be made to Sub-Clause 13.6 of the General Conditions. Work shall not be executed on a daywork basis except by written order of the Engineer. Bidders shall enter basic rates for daywork items in the Schedules, which rates shall apply to any quantity of daywork ordered by the Engineer. Nominal quantities have been indicated against each item of daywork, and the extended total for Daywork shall be carried forward as a Provisional Sum to the Summary Total Bid Amount. Unless otherwise adjusted, payments for daywork shall be subject to price adjustment in accordance with the provisions in the Conditions of Contract.

### Daywork Labour

2. In calculating payments due to the Contractor for the execution of daywork, the hours for labour will be reckoned from the time of arrival of the labour at the job site to execute the particular item of daywork to the time of return to the original place of departure, but excluding meal breaks and rest periods. Only the time of classes of labour directly doing work ordered by the Engineer and for which they are competent to perform will be measured. The time of gangers (charge hands) actually doing work with the gangs will also be measured but not the time of foremen or other supervisory personnel.
3. The Contractor shall be entitled to payment in respect of the total time that labour is employed on daywork, calculated at the basic rates entered by the Contractor in the **Schedule of Daywork Rates: 1. Labour**, together with an additional percentage payment on basic rates representing the Contractor's profit, overheads, etc., as described below:
  - (a) The basic rates for labour shall cover all direct costs to the Contractor, including (but not limited to) the amount of wages paid to such labour, transportation time, overtime, subsistence allowances, and any sums paid to or on behalf of such labour for social benefits in accordance with Malawi law. The basic rates will be payable in local currency only.
  - (b) The additional percentage payment to be quoted by the bidder and applied to costs incurred under (a) above shall be deemed to cover the Contractor's profit, overheads, superintendence, liabilities, and insurances and allowances to labour, timekeeping, and clerical and office work, the use of consumable stores, water, lighting, and power; the use and repair of stagings, scaffolding, workshops, and stores, portable power tools, manual plant, and tools; supervision by the Contractor's staff, foremen, and other supervisory personnel; and charges incidental to the foregoing. Payments under this item shall be made in the following currency proportions:
    - (ii) local: **100%** percent (to be stated by bidder).

### Daywork Materials

4. The Contractor shall be entitled to payment in respect of materials used for daywork (except for materials for which the cost is included in the percentage addition to labour costs as detailed heretofore), at the basic rates entered by the Contractor in the **Schedule of Daywork Rates: 2. Materials**, together with an additional percentage payment on the basic rates to cover overhead charges and profit, as follows:

- (a) the basic rates for materials shall be calculated on the basis of the invoiced price, freight, insurance, handling expenses, damage, losses, etc., and shall provide for delivery to store for stockpiling at the Site. The basic rates shall be stated in local currency, but payment will be made in the currency or currencies expended upon presentation of supporting documentation.
- (b) the additional percentage payment shall be quoted by the bidder and applied to the equivalent local currency payments made under (a) above. Payments under this item will be made in the following currency proportions:
  - (ii) local: 100%
- (c) the cost of hauling materials for use on work ordered to be carried out as daywork from the store or stockpile on the Site to the place where it is to be used will be paid in accordance with the terms for Labour and Construction in this schedule.

#### **Daywork Contractor's Equipment**

- 5. The Contractor shall be entitled to payments in respect of Contractor's Equipment already on Site and employed on daywork at the basic rental rates entered by the Contractor in the **Schedule of Daywork Rates: 3. Contractor's Equipment**. Said rates shall be deemed to include due and complete allowance for depreciation, interest, indemnity, and insurance, repairs, maintenance, supplies, fuel, lubricants, and other consumables, and all overhead, profit, and administrative costs related to the use of such equipment. The cost of drivers, operators, and assistants will be paid for separately as described under the section on Daywork Labour
- 6. In calculating the payment due to the Contractor for Contractor's Equipment employed on daywork, only the actual number of working hours will be eligible for payment, except that where applicable and agreed with the Engineer, the travelling time from the part of the Site where the Contractor's Equipment was located when ordered by the Engineer to be employed on daywork and the time for return journey thereto shall be included for payment.
- 7. The basic rental rates for Contractor's Equipment employed on daywork shall be stated in local currency, but payments to the Contractor will be made in the quoted currency.

## Schedule of Daywork Rates: 1. Labour

ITEM	DESCRIPTION	UNIT	Qty	Rate ( US\$)	Amount ( US\$)
<b>PS 90.01</b>	<b>Personnel during normal working hours</b>				
(a)	Unskilled labour	h	100		
(b)	Semi - skilled labour	h	100		
(c)	Skilled labour	h	100		
(d)	Ganger	h	100		
(e)	Flagmen	h	100		
(f)	Operators	h	100		
(g)	Foremen	h	100		
(h)	Surveyor	h	100		
(i)	Lab technician	h	100		
	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS18.03 )				To be entered by bidder
	<b>TOTAL CARRIED TO DAYWORK SUMMARY</b>				



## Schedule of Daywork Rates: 2. Materials

Item No	Description	Unit	Qty	Rate (US\$)	Amount (US\$)
<b>PS 90.02</b>	<b>Materials</b>				
(a)	Ordinary Portland Cement	tonne	3.00		
(b)	Reinforcement Steel	tonne	1.00		
(c)	Coarse Aggregate for Concrete	m3	50.00		
(d)	Fine Aggregate for Concrete	m3	50.00		
(e)	Sand	m3	25.00		
(g)	Gravel G30	m3	100.00		
(i)	Diesel	l	250.00		
(j)	Penetration Grade Bitumen 50/70	MT	2.00		
(k)	Cutback Bitumen MC30	MT	0.50		
	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS18.04)				To be entered by bidder
	<b>TOTAL CARRIED TO DAYWORK SUMMARY</b>				

## Schedule of Daywork Rates: 3. Contractor's Equipment

Item No	Description	Unit	Qty	Rate (US\$)	Amount (US\$)
<b>PS90.03</b>	<b>Equipment</b>				
(a)	Tip Truck 6m <sup>3</sup>	h	100		
(b)	Tip truck 10m <sup>3</sup>	h	100		
(c)	Motor grader 140 hp complete with scarifier	h	100		
(d)	Wheeled loader bucket capacity 2 cum	h	100		
(e)	Tractor-Loader-Backhoe	h	100		
(f)	Water bowser – self-propelled (9000 litres)	h	100		
(g)	Vibratory roller	h	100		
(h)	Pneumatic roller	h	100		
(i)	Grid roller with tractor (5 - 7 tons)	h	100		
(j)	Tractor (110 HP)	h	100		
(k)	Bulldozer 330 hp capacity	h	100		
(l)	Excavator 1.1 cum bucket capacity	h	100		
(m)	Concrete mixer 15 HP 0.5 m <sup>3</sup>	h	100		
(n)	Light Duty Vehicle	km	2000		
(o)	Flatbed truck	km	2000		
(p)	Generator Set	h	100		
(q)	Compressor Set	h	100		
	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS18.01,PS18.02 )				To be entered by bidder
	<b>TOTAL CARRIED TO DAYWORK SUMMARY</b>				

## Daywork Summary

Description	Amount (USD)
1. Total for Daywork: Labour	
2. Total for Daywork: Materials	
3. Total for Daywork: Contractor's Equipment	
<b>Total for Daywork (Provisional Sum) (Carried forward to Bid Summary)</b>	

## Summary of Specified Provisional Sums

ITEM	DESCRIPTION	AMOUNT(US\$)
<b>PS13.02</b>	Relocation of Services	
(a)	compensation for relocation of Services.	8,562
(b)	% for Contractor's overheads and profit. (Refer 13.4 (b) (ii) Contract Data, Clause No-PS13.02(a))	To be entered by bidder
<b>PS 13.03</b>	Relocation of Water Utilities	
(a)	Allow Provisional Sum for Relocation of Water Utilities	30,822
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS13.03(a))	To be entered by bidder
<b>PS 13.04</b>	Relocation of Telecommunications Services	
(a)	Allow Provisional Sum for Relocation of Telecommunications Services	8,134
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii)Contract Data, Clause No-PS13.04(a))	To be entered by bidder
<b>PS 13.05</b>	Relocation of Electricity Services	
(a)	Allow provisional sum for relocation of electricity services	51,370
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS13.05(a))	To be entered by bidder
<b>PS13.06</b>	AIDS Awareness Training	
(a)	Training	15,154
(b)	Remuneration of the workers undergoing training	3,082
(c)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS13.06(a)and(b))	To be entered by bidder
<b>PS13.07</b>	Public Awareness Programmes	
(a)	Television and Radio Broadcast and Print Media Publications	15,154
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii)Contract Data, Clause No-PS13.07(a))	To be entered by bidder
<b>PS13.08</b>	Payments to the Dispute Review Board members for their consulting services	12,842
(a)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS13.08))	To be entered by bidder
<b>PS14.07</b>	<b>Rented, hotel and other accommodation</b>	
(a)	Provisional sum for providing rented housing, hotel or other accommodation as described in subclause 1403 (c) (ii)	42,808
(b)	Provision sum for providing rented offices temporarily	34,675

ITEM	DESCRIPTION	AMOUNT(US\$)
(c)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS14.07(a)and(b))	To be entered by bidder
<b>PS14.20</b>	<b>Provision of semi-skilled labour for use by the Engineer</b>	
(a)	Provision of labourers	60,616
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS14.20(a))	To be entered by bidder
<b>PS14.22</b>	<b>Supply of office consumables and stationery</b>	
(a)	Supply of office stationery as ordered by Engineer	16,524
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS14.22(a))	To be entered by bidder
<b>61.01 (a)</b>	Additional foundation investigations	145,479
<b>61.01 (b)</b>	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS61.01(a))	To be entered by bidder
<b>61.22</b>	Forming augered and bored pile holes through unidentified obstructions	5,137
<b>66.03</b>	Proprietary expansion joints:	
(a)	Prime cost sum allowed for purchasing and taking delivery of expansion joints	25,571
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS66.03(a))	To be entered by bidder
<b>66.09</b>	Proprietary bearings:	
(a)	Prime cost sum allowed for purchasing and taking bearings	44,521
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS66.09(a))	To be entered by bidder
<b>71.02</b>	<b>Other special tests requested by the Engineer:</b>	
(a)	Cost of testing	5,137
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS71.02(a))	To be entered by bidder
<b>80.03 (a)</b>	Provide assistance and environmental training to staff	<b>25,685</b>
(b)	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS80.03(a))	To be entered by bidder
<b>81.03 (a)</b>	Provide assistance and Road Safety training to staff	<b>6849</b>
	% for Contractor's overheads and profit.( Refer 13.4 (b) (ii) Contract Data, Clause No-PS81.03(a))	To be entered by bidder
<b>Total Provisional Sum carried forward to Bid Summary</b>		

## Grand Summary

**Contract Name:** The Multinational Nacala Road Corridor Development Project Phase-V: Rehabilitation of Nsipe – Chingeni - Liwonde (M001/M008) Road Section (55 km)

**Contract No.:** RA/DEV/MGH-BLK-NU/2022-23/04

Bill No.	DESCRIPTION	AMOUNT (USD)
1	GENERAL	
2	DRAINAGE	
3	EARTHWORKS AND PAVEMENT LAYERS OF GRAVEL OR CRUSHED STONE	
4	ASPHALT PAVEMENTS AND SEALS	
5	ANCILLARY ROADWORKS	
6	STRUCTURES	
7	TESTING AND QUALITY CONTROL	
8	ENVIRONMENT AND SOCIAL	
9	DAYWORKS	
<b>A</b>	<b>SUB TOTAL</b>	
B	PROVISIONAL SUMS SPECIFIED IN THE BILLS OF WORKS PLUS THEIR EXTRA OVER AMOUNTS	
C	SUB-TOTAL OF BILLS LESS SPECIFIED PROVISIONAL SUMS AND THEIR EXTRA OVER AMOUNTS (C=A-B)	
D	ADD 5% OF (C) FOR PHYSICAL CONTINGENCIES	
E	ADD 15% OF (C) FOR PRICE ADJUSTMENT AGAINST IMPROVEMENT WORKS	
<b>F</b>	<b>TOTAL COST (F=A+D+E)</b>	
G	VAT @ 16.5% ON F	
<b>H</b>	<b>TOTAL COST CARRIED FORWARD TO FORM OF BID (H=F+G)</b>	

## Technical Bid

- Technical Bid-Base Bid
- Site Organization
- Method Statement
- Mobilization Schedule
- Construction Schedule
- ES Management Strategies and Implementation Plans
- Code of Conduct (ES)
- Equipment
- Key Personnel Schedule
- Others

## Technical Bid-Base Bid

**[Note for information of Bidder:** Bidders shall demonstrate compliance with the Employer's requirements and Technical Specifications as described in Section VII of the Bidding Documents. Any departures or deviations from the required Technical Specifications shall be highlighted and if there are none, full compliance shall be confirmed.

The Bidder shall provide the Technical Bid for the Base-Bid complete in all respect including Technical information and standards, codes, designs and specifications, of Works offered along with all documentation mentioned in ITB 16 and Section VII of the Bidding Document. This will include relevant literatures, data or drawings, test results and other supporting documents, including all information requested in the Bidding Document and as may be necessary to establish conformity with the Employer's Specifications and requirements.

Any deviations in the technical standards, codes, designs or specifications or other requirements from those stated in the Bidding Documents shall be explained indicating their impact on the performance requirements, characteristics or parameters of the works. To this end, for any such deviations to be acceptable, Bid shall establish to the satisfaction of the Employer substantial responsiveness to the required technical specifications by explaining and documenting for the offered works, equivalency with or improvement to the required technical standards, codes, designs and Specifications.

Any Major deviation from the Employer's requirements shall be the cause for rejection of the Bid. Any deviation which in the Bidder's opinion is considered minor, the Bidder shall provide evidence to this effect including evidence of any monetary implications caused by such deviation. The Employer's evaluation shall be independent of Bidder's opinion on such matters and shall be final]



## Site Organization

[insert Site Organization information]

Bidders shall provide the following:

1. An organization chart for Head Office showing clearly staff who will be directly concerned with the Contract.
2. An organization chart for Site management showing clear linkage with Head Office and Key Technical Supervisory Staff.
3. A schedule of all proposed Site management and key technical supervisory staff, corresponding to item 2 above, in the format below:

Name and Nationality	Qualifications (See note 1)	Proposed Position & Responsibility	Years of Experience at this Position/ Level	Years of Directly Relevant Experience (See note 2)

#### 4. **A clear statement of the contractual decisions delegated to Site Management and those reserved for the Head Office.**

Note 1: The ability including evidence to speak the Contract language English should be stated, as well as academic and technical qualifications.

Note 2: This must clearly state periods, giving month, year and country, during which the nominee has been involved in works which directly fit them for the position proposed. (e.g. for an Asphalt /Pavement Engineer relevant work should directly involve construction of asphaltic mixtures.)

### **Method Statement**

*[insert Method Statement]*

The Bidder shall submit a narrative outlining his intended methods for undertaking the Works. This narrative should include, but not be limited to, details of the following:

- i) the methods to be used in procuring the necessary resources, their transportation to the Site and their installation;
- ii) methods to be employed in constructing the Works, including specific details of the Contractor's and Engineer's establishments, earthworks and drainage the production and construction of: gravel sub-base, crushed aggregate base, surface dressing and concrete, the construction of new concrete structures and clearance of the Site after completion of construction;
- iii) for each major element of work and production of materials (e.g. stone quarry and aggregates), prepare a separate table showing number of labour by craft and all items of plant to form one "gang (labour and plant)" and the assumed production rates for one gang including how haulage will be managed.
- iv) the methods to be employed in meeting the Contractor's obligations for providing for the safety and passage of public traffic during construction operations;
- v) proposals for sources of construction materials, including bitumen, and detailed proposals for the sourcing, winning and processing of naturally occurring materials (e.g. borrows and quarries);
- vi) traffic management
- vii) Environmental and Social Safeguard Plan; it should cover among other things provision of adequate gender sensitive sanitary facilities at the camp and mobile toilets at the construction sites, employee welfare (medical care for the personnel, provision of accommodation and lunch for employees), protection of girls and women from sexual harassment by workers, compensation of victims affected by the action or inaction by the contractor, HIV/AIDS and Gender sensitisation
- viii) health and safety

*(Refer to the Special Specification for additional requirements to be undertaken during Contract)*

## **Mobilization Schedule**

In accordance with the Particular Conditions, Sub-Clause 4.1, the Contractor shall not carry out mobilization to Site unless the Engineer gives consent that appropriate measures are in place to address environmental and social risks and impacts, which as 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.

Using a Gantt chart, the Bidder must clearly demonstrate how he will complete mobilisation activities within three months. Activities must be properly sequenced and assigned realistic completion timelines. Bids that fail to demonstrate completion of mobilisation activities within three months after commencement shall be rejected. The mobilisation schedule must show among others timelines for mobilisation of personnel, equipment, establishment of contractor's camp and engineer's facilities etc.

## Construction Schedule

The construction schedule shall include the following key milestones:

- No-objection to the Contractor's MSIPs, which collectively form the C-ESMP, in accordance with the Particular Conditions – Special provisions Sub-Clause 4.1.
- Constitution of the DAAB

**The Contractor is required to complete the Works within the date stated in the contract agreement. The Bidder shall provide a construction schedule, showing the sequence of all major work items, and identifying any critical path operations. The schedule shall show the resources associated with each construction operation and, in particular, shall show a histogram of the requirement for all major items of Contractor's Equipment taking in to account the effect of rainy season.**

***The following shall specifically be shown:***

1. Date of Commencement.
2. Time for Completion.
3. Completion of the Contractor's and the Engineer's camps and other establishment items, including transport for the Engineer.
4. Provision of temporary facilities for the Engineer until the long-term ones are complete
5. Requirements for Possession of Site.
6. Sourcing and approval of materials
7. On site production of materials e.g. at each borrow area, stone quarry and asphalt plant
8. For major work items the quantities, production rates for one "gang" as described in your method statement, the number of "gangs" and duration
9. If the tenderer plans to subcontract more than 10% of part of the works, he must provide the following details:

No.	Work intended to be subcontracted	Name and details of subcontractors	Value of subcontract as percentage of the total cost of the project	Experience in similar work (details to be specified)
1				
2				
3				
4				
5				

***(Refer to the Special Specification for additional requirements with regard to Planning, Development of Construction Schedule and Reporting during Contract)***

## **QUALITY ASSURANCE SYSTEM(S)**

Please provide hereunder details of the proposed quality assurance system you intend to use to ensure successful, safe and planned access to site; production; field operations; inspection, sampling and site testing; site trials and completion of the works.

Internal audit and corrective action

Also provide details of how you intend to undertake an internal audit at regular intervals and what measures you will put in place for corrective action should the internal audit show discrepancies.

In addition include a plan that clearly shows how you will seek approval in a timely manner for all materials, undertake laboratory testing and site trials and maintain a record and status of approvals for all materials

(Refer to the Special Specification for additional requirements to be undertaken during Contract)

## **ES Management Strategies and Implementation Plans**

### **(ES-MSIP)**

The Bidder shall submit comprehensive and concise **Environmental and Social (ES)** Management Strategies and Implementation Plans (ES-MSIP) as required by ITB 11.1 (j) of the Bid Data Sheet. These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

In developing these strategies and plans, the Bidder shall have regard to the ES provisions of the contract including those as may be more fully described in the Works Requirements in Section VII.

## Code of Conduct for Contractor's Personnel (ES)

### *Note to the Employer:*

*The following minimum requirements shall not be modified. The Employer may add additional requirements to address identified issues, informed by relevant environmental and social assessment.*

*The types of issues identified could include risks associated with: labour influx, spread of communicable diseases, Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) etc.*

*Delete this Box prior to issuance of the bidding documents.*

### **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.

## 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.

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;
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 sexual exploitation, sexual abuse and sexual harassment cases, 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.

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.

#### 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 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.

## Form EQU: Equipment

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

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Bidder.

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

## Form PER -1

### Contractor's Representative and Key Personnel Schedule

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

#### Contractor' Representative and Key Personnel

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

	<b>Name of candidate:</b>	
	<b>Duration of appointment:</b>	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	<b>Time commitment: for this position:</b>	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	<b>Expected time schedule for this position:</b>	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
<b>5.</b>	<b>Title of position:</b> Sexual Exploitation, Abuse and Harassment Expert <i>[Where a Project SEA risks are assessed to be substantial or high, Key Personnel shall include an expert with relevant experience in addressing sexual exploitation, , sexual abuse and sexual harassment cases]</i>	
	<b>Name of candidate</b>	
	<b>Duration of appointment:</b>	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	<b>Time commitment: for this position:</b>	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	<b>Expected time schedule for this position:</b>	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
<b>6.</b>	<b>Title of position:</b> <i>[insert title]</i>	
	<b>Name of candidate</b>	
	<b>Duration of appointment:</b>	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	<b>Time commitment: for this position:</b>	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	<b>Expected time schedule for this position:</b>	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>

## Form PER-2:

### Resume and Declaration

#### Contractor's Representative and Key Personnel

<b>Name of Bidder:</b>
------------------------

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

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

Project	Role	Duration of involvement	Relevant experience

<i>[main project details]</i>	<i>[role responsibilities and on the project]</i>	<i>[time in role]</i>	<i>[describe the experience relevant to this position]</i>

## Declaration

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

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

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

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

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

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

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

Date: (day month year): \_\_\_\_\_

**Countersignature of authorized representative of the Bidder:**

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

Date: (day month year): \_\_\_\_\_



## Commercial Terms and Conditions

*[Bidder shall specify any deviations to the provisions of the Bidding Document (other than Technical Specifications) in particular those specified in Part 3 of the Bidding document including General and Particular Conditions of Contract. If “None” it shall be confirmed accordingly].*

## **Bidders Qualification following Prequalification**

The Bidder shall update the information given during the corresponding prequalification exercise to demonstrate that he continues to meet the criteria used at the time of prequalification regarding:

- (a) Eligibility**
- (b) Pending Litigation**
- (c) Financial Situation**

For this purpose, the Bidder shall use the relevant forms included in this Section.

## Form ELI -1.1

### Bidder Information Form

Date: \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ pages

Bidder's name
In case of Joint Venture (JV), name of each member:
Bidder's actual or intended country of registration: <i>[indicate country of Constitution]</i>
Bidder's actual or intended year of incorporation:
Bidder's legal address [in country of registration]:
Bidder's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.4. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITB 4.6 documents establishing: <ul style="list-style-type: none"> <li>• Legal and financial autonomy</li> <li>• Operation under commercial law</li> <li>• Establishing that the Bidder is not under the supervision of the Employer</li> </ul>
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[If required under BDS ITB 47.1, the successful Bidder shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.]</i>

## Form ELI -1.2

### Bidder's JV Information Form

(to be completed for each member of Bidder's JV)

Bidder's Name: \_\_\_\_\_

Date: \_\_\_\_\_  
 JV Member's Name \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ pages

Name of the Reporting Firm \_\_\_\_\_

### JV Information of the Reporting Firm

Bidder's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
<p>1. Attached are copies of original documents of</p> <p><input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.4.</p> <p><input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Employer, in accordance with ITB 4.6.</p> <p>2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. <i>[If required under BDS ITB 47.1, the successful Bidder shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.]</i></p>

## Form ELI -1.3

### Eligible Materials, Equipment and Services Form

(to be completed by the Bidder)

Date: \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ pages

**Eligible Materials, Equipment and Services:** In compliance with ITB 5, provide the following information for all Materials, Equipment and Services included under the Contract. Instead of listing each and every item, broad categories are listed below. Include all items in these

categories unless any item to be supplied is not covered by any one of them in which case list them separately.

1 S. No.	2 Description of Broad Category of Materials/Equipment and Services	3 Estimated Quantity- <i>[Indicate: "All quantity as required" or quantity by subcategory of items]</i>	4 Estimated Aggregate Value (US Dollar Equivalent)	5 Countries of Origin
1	All Construction and Testing Materials including raw materials, Cement, Steel, Timber, Lime, Sand, Aggregates, Plastics, Bitumen, Oils, Lubricants, etc. as per specification			
2	All types of Plants, Equipment including Laboratory and Testing Equipment, All types of Vehicles, Furniture, Fittings and Fixtures, Pipes, Tools, Steel and Other Structures, Utensils, Computers and Other IT Equipment, etc. as per specification			
3	All Types of Services including Construction, Installation, Assembly, Inspection, Supervision, Care of Sites, Labor (Skilled and Unskilled), Drilling, Mapping, Transportation and Insurance, etc. as per specification			
4				
5				

## Form CON – 2

### Historical Contract Non-Performance, and Pending Litigation

*[This form should be used only if the information submitted at the time of prequalification requires updating. The following table shall be filled in for the Bidder and for JVs, each member of the Joint Venture]*

Bidder's Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 JV Member's Name \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ Pages

Name of the Reporting Firm \_\_\_\_\_

### Historical Contract Non-Performance, Pending Litigation of the Reporting Firm

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria of the Prequalification document			
<input type="checkbox"/> Contract non-performance did not occur since 1 <sup>st</sup> January <i>[insert year]</i> <input type="checkbox"/> Contract(s) not performed since 1 <sup>st</sup> January <i>[insert year]</i>			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No pending litigation <input type="checkbox"/> Pending litigation			
Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent

			<b>(exchange rate)</b>
		Contract Identification: _____ Name of Employer: _____ Address of Employer: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	

## Form CON – 3

### Environmental and Social Performance Declaration

*[This form should be used only if the information submitted at the time of prequalification requires updating. The following table shall be filled in for the Bidder, each member of a Joint Venture and each Specialized Subcontractor]*

Bidder's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Specialized Subcontractor's Name: *[insert full name]*

OCBI No. and title: *[insert IFB number and title]*

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

Name of the Reporting Firm \_\_\_\_\_

#### Environmental and Social Performance Declaration of the Reporting Firm

Environmental and Social Performance Declaration			
in accordance with Section III, Qualification Criteria, and Requirements of the Prequalification document			
<input type="checkbox"/> <b>No suspension or termination of contract:</b> An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental and Social (ES) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5.			
<input type="checkbox"/> <b>Declaration of suspension or termination of contract:</b> The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental and Social (ES) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.5. Details are described below:			
Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g. gender-based violence; sexual exploitation or sexual abuse breaches]</i>	<i>[insert amount]</i>



<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
...	...	<i>[list all applicable contracts]</i>	...
<b>Performance Security called by an employer(s) for reasons related to ES performance</b>			
Year	Contract Identification		Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for calling of performance security: <i>[indicate main reason(s) e.g. gender-based violence; sexual exploitation or sexual abuse breaches]</i>		<i>[insert amount]</i>

## Form FIN – 3.1

### Financial Situation and Performance

*[The form shall be filled in for the Bidder, and each member of a Joint Venture, if Bidder is a JV]*

Bidder's Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 JV Member Name \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ pages

Name \_\_\_\_\_ of \_\_\_\_\_ the \_\_\_\_\_ Reporting Firm \_\_\_\_\_

### Financial Situation and Performance of the Reporting Firm

#### 1. Financial data

*(This form should be used only if the information submitted at the time of prequalification requires updating)*

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

Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

## 2. Sources of Finance

Specify sources of finance to meet the cash flow requirements on works under this contract and all current contract commitments consistent with information provided under Form FIN 3.3.

No.	Source of finance	Amount (US\$ equivalent)
1		
2		
3		

## 3. Financial documents

The Bidder and its parties shall provide copies of financial statements to demonstrate that they continue to meet the financial requirements at the time of prequalification.

The financial statements shall:

- (a) reflect the financial situation of the Bidder or in case of JV member, and not an affiliated entity (such as parent company or group member).
- (b) be independently audited or certified in accordance with local legislation.
- (c) be complete, including all notes to the financial statements.
- (d) correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements<sup>1</sup> for the last 5 years required above; and complying with the requirements

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<sup>1</sup> If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified.

## Form FIN - 3.2

### Average Annual Construction Turnover

*(This form should be used only if the information submitted at the time of prequalification requires updating)*

Bidder's Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 JV Member Name \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ pages

Name of the Reporting Firm \_\_\_\_\_

Average Annual Construction Turnover of the Reporting Firm

		Annual turnover data (construction only)	
Year	Amount Currency	Exchange rate	USD equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover			

## Form FIN – 3.3:

### Current Contract Commitments / Works in Progress

*[The form shall be filled in for the Bidder, and each member of a Joint Venture, if Bidder is a JV]*

Bidder's Name: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 JV Member's Name \_\_\_\_\_  
 OCBI No. and title: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ pages

Name of Reporting Firm: \_\_\_\_\_

### Current Contract Commitments / Works in Progress of the Reporting Firm

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

Based on value of all outstanding works and average monthly invoicing, the Bidder and each Member to a JV shall explain how completion by estimated time is proposed to be achieved for each contract listed.

The Bidder and each Member to a JV shall also demonstrate based on access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments consistent with information provided by the Bidder/Each JV Member under Form FIN--3.1 and this Form Fin 3.3, how the overall cash flow requirements for this Contract and their all other current contract commitments will be met.

Current Contract Commitments and Cash-Flow Requirements						
1 S. No.	2 Name of Contract	3 Employer's Contact Address, Tel, Fax	4 Value of Outstanding Work [Current US\$ Equivalent]	5 Estimated Completion Date/Time in Months to complete	6 Average Monthly Invoicing Over Last Six Months [US\$/month]	7 Estimated Cash- Flow Required for every 4 months= [Value under column 4 divided by Months under column 5 times 4]

## Form of Bid Security – Demand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** \_\_\_\_\_ *[Insert name and address of the Employer]*  
**Invitation for Bids No:** \_\_\_\_\_ *[Employer to insert the same IFB number as advertised]*  
**OCBI No:** \_\_\_\_\_ *[Employer to insert same OCBI number as in procurement plan]*  
**Alternative No.:** \_\_\_\_\_ *[Insert identification No if this is a Bid for an alternative]*  
**Date:** \_\_\_\_\_ *[Insert date of issue]*  
**BID GUARANTEE No.:** \_\_\_\_\_ *[Insert guarantee reference number]*

**Guarantor:** \_\_\_\_\_ *[Insert Guarantor's name and address of place of issue, unless indicated in the letterhead]* We have been informed that \_\_\_\_\_ (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of \_\_\_\_\_ under Invitation for Bids No. \_\_\_\_\_ ("the IFB") and Open Competitive Bidding (International) No. \_\_\_\_\_ ("the OCBI").

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

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

- (a) has withdrawn its Bid during the period of Bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance Security and, if required, the Environmental and Social (ES) Performance Security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's Bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, if required, the Environmental and Social (ES) Performance Security, issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

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

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

\_\_\_\_\_  
*[signature(s)]*

*[Note: In case the Applicant is a Joint Venture indicate the name of the Joint Venture or names of all members of the Joint Venture that submitted or will submit the Bid]*

## Section V - Eligible Countries

### Eligibility for the Provision of Goods, Works and Non-Consulting Services in Bank Group Financed Procurement

#### A. Provisions under Section 5 “Eligibility” of the Procurement Policy for Bank Group Funded Operations and Chapter A2 of the Operations Procurement Manual under Procurement Framework of the African Development Bank

1. The African Development Fund (ADF) permits firms and individuals from all countries to offer goods, works and services for ADF funded projects.

However, the proceeds of any Financing undertaken in the operations of the African Development Bank (ADB) and the Nigeria Trust Fund (NTF) shall be used for procurement of goods and works, including the related services, provided by bidders from Eligible<sup>1</sup> Countries.<sup>2</sup> Any conditions for participation shall be limited to those that are essential to ensure the firm’s capability to fulfill the contract in question. In the case of ADB and NTF, bidders from non-Member Countries offering goods, works and related services (including transportation and insurance) are not eligible even if they offer these from Eligible Member Countries. Any waiver to this rule will be in accordance with the Articles 17(1) (d) of the Agreement Establishing the African Development Bank and 4.1 of the Agreement Establishing the Nigeria Trust Fund.

#### B. Rules and Procedures for Procurement of Goods and Works

##### Overview

1. The eligibility criteria for participation in the supply of goods, works and related services, to be procured through the ADB and NTF Financing, derive from the requirements of the Agreement Establishing the African Development Bank, Article 17.1.d, and the Agreement Establishing the Nigeria Trust Fund, Article 4.1. The foregoing requirements basically prescribe two types of eligibility criteria:
  - (a) The eligibility of the bidder;
  - (b) The eligibility of the goods, works and related services.

##### Eligibility of the Bidder under the ADB & NTF Financing

2. The eligibility of the bidder shall be based on nationality, in accordance with the following rules:
  - (a) Natural Persons: A natural person is eligible if he or she is a national of a Member Country of the ADB. Where a person has more than one nationality, such a person shall be eligible if the nationality indicated in his or her bid is that of a Member Country of the ADB.

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<sup>1</sup> Refer to Bank Procurement Framework for additional information on Eligibility.

<sup>2</sup> “Eligible Countries” shall mean: (a) in the case of the African Development Bank (ADB) and the Nigeria Trust Fund (NTF), the Member Countries of the ADB; and (b) in the case of the African Development Fund, any country.

- (b) **Corporations:** A corporation is eligible if it satisfies the following criteria:
1. it is incorporated in a country that is a Member of the ADB;
  2. it is a national of a country that is a Member of the ADB, as determined by the law of its place of incorporation;
  3. it has its principal place of business in a country that is a Member of the ADB.
- (c) **Joint Ventures and Associations:** An unincorporated joint venture, partnership, or association, shall be eligible if more than 50% of the value of its works and/or services is executed by its members satisfying the eligibility requirements for individuals or corporations.

### **Eligibility of the Goods, Works and Related Services**

3. In order to be eligible, the goods to be procured must have been mined, grown, or produced, in the form in which they are purchased, in an Eligible Member Country.
4. For works contracts, which may include civil works, plant construction, or turnkey contracts, the contractor must satisfy the nationality criteria of eligibility, either as a natural person, or corporation, or joint venture and association. Labour, equipment, and materials needed for carrying out the works contract, shall be supplied from Eligible Member Countries.
5. For contracts, which have been awarded on the basis of Cost, Insurance and Freight (CIF), or Carriage and Insurance Paid (CIP), bidders shall be free to arrange for ocean and other transportation, and the related insurance, from any Eligible Member Country. On the other hand, where goods are shipped on FOB basis, and the Bank has agreed to finance transportation and insurance separately, which are arranged by the purchaser, under a separate contract, the Bank shall be satisfied that the services are supplied from Eligible Member Countries.

### **List of Eligible Countries**

6. List of Eligible countries can be found in African Development Bank's website:  
<https://www.afdb.org/en/about-us/corporate-information/members/>

### **Ineligible Countries in reference to ITB 4.8 and ITB 5.1**

7. In reference to ITB 4.8 and ITB 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8(a) and ITB 5.1: *None*.

Under ITB 4.8(b) and ITB 5.1: *None*



## Section VI - Fraud and Corruption

### (Section VI shall not be modified)

#### 1. Purpose

1.1 The Bank's Integrity Framework and this annex apply with respect to procurement under Bank Investment Project Financing operations.

#### 2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption<sup>1</sup>.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
  - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party<sup>2</sup>;
  - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party<sup>3</sup> to obtain financial or other benefit or to avoid an obligation;
  - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
  - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
  - v. "obstructive practice" is:
    - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

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<sup>1</sup> In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>2</sup> For the purpose of this sub-paragraph, "another party" refers to a public official acting in relation to the procurement process or contract execution, including Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>3</sup> For the purpose of this sub-paragraph, "party" refers to a public official, including Bank staff and employees of other organizations taking or reviewing procurement decisions.; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution."

- (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
  - c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
  - d. Pursuant to the Banks Integrity Framework and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;<sup>4</sup> (ii) to be a nominated<sup>5</sup> sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
  - e. Requires that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants), consultants, contractors, and suppliers; and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect<sup>6</sup> all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

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<sup>4</sup> For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

<sup>5</sup> A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

<sup>6</sup> Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.



## **Part 2 –Works’ Requirements**



# Section VII - Works’ Requirements

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## **1. Scope of Works**

### **1.1. Description of the Work**

#### **e) General**

The project is for the rehabilitation or re-construction of Nsipe-Chingeni-Liwonde (M001/M008) Road section. The project road is 54.8 km long stretching from Nsipe Trading Centre in Ntcheu District to Liwonde Township in Machinga District through Balaka Boma. The road section from Nsipe Trading Centre to Chingeni Trading Centre is part of the M001 road while the section from Chingeni Trading Centre to Liwonde Town forms the M08 road.

Nsipe-Chingeni-Liwonde is of vital importance to the Malawi Transport system as well as SADC block as it forms part of the Nacala Road Corridor designated as Route 20 on the SADC Regional Trunk Road Network (RTRN). The project is part of the route connecting Mozambique at Mandimba/Chiponde border with Zambia at Mchinji/Mwami Border.

Save for Salima Turn/off to Chingeni section, the whole project road is currently in poor condition with obvious signs of road failure on some sections evidenced by potholing, poor riding surface and worn out shoulders. The section from Salima T/O to Chingeni was newly rehabilitated by the Roads Authority.

The project will also involve construction of a road-over-rail bridge at Balaka Town.

#### **f) Roadworks**

##### **I. Roadworks**

The project will involve substantial amount of earthworks. Fills will be required at Balaka Town where a road-over-rail scenario is incorporated. The road will be rehabilitated to have 3.4m wide lanes and 2.0 and 2.5 sealed shoulders in rural and urban section respectively each direction. Benching will be required since the road carriageway has been widened.

##### **II. Horizontal alignment**

The road is traversing through rolling terrain in Ntcheu District followed by flat plain in Balaka District. In this case, the road is fairly winding from Nsipe-Trading Centre to Salima Turn/-Off from where the road is characterised by long straights up to Liwonde Township through Balaka. The existing alignment has been maintained as much as possible.

##### **III. Vertical Alignment**

The road profile of the upgrading works mostly hugs the existing profile except at sections where overtopping was observed or reported and in sections where vertical alignment standards were highly violated.

The road has been raised at Balaka Town to incorporate a road-over-rail bridge.

#### **g) Pavement**

The pavement works have been divided into 2 sections of homogeneous properties

pursuant to the pavement rehabilitation design and pavement residual life. The sections are also consistent with the existing performance life. The options are indicated herein;

#### **I. Section 1 (0+000 – 20+000)**

This section shall include construction of roadbed; fill layers to conform with the widened typical sections up to formation level. Then construct subgrade layer and subbase layer. Natural Gravel sub-base material shall be imported on top of the existing base to make up levels, and then the imported material and the existing base material shall be milled, processed to form the new 200mm thick sub base course. On top of this Natural Crushed, aggregate (CRR) to form a new base layer of 200mm thick. Surface shall be 50mm-thick Asphalt concrete.

#### **II. Section 2 (20+000 – 54+440)**

This section shall include construction of roadbed; fill layers to conform with the widened typical sections up to formation level. Then construct subgrade layer and subbase layer. Natural Gravel sub-base material shall be imported on top of the existing base to make up levels, and then the imported material and the existing base material shall be milled, processed to form the new 200mm thick sub base course. On top of this Natural Crushed, aggregate (CRR) to form a new base layer of 150mm thick. Surface shall be 50mm-thick Asphalt concrete.

Construction of Side drains for all sections shall be in accordance with provisions in the Book of Drawings or as may be advised by the Engineer.

### **h) Structures**

#### **I. Pipe Culverts**

The works shall involve installation of 900mm diameter precast concrete pipes with ogee type joint on Class A bedding. Some culverts which were found both hydraulically adequate and structurally sound shall be maintained. However, the crossing culverts shall be extended to meet the design road width. Other culverts which were found hydraulically inadequate or structurally not sound shall be replaced. All Armco culverts will be replaced because they are prone to corrosion and vandalism. The details as follows:

<b>Description</b>	<b>Proposal</b>	<b>Numbers</b>
RC Pipe to RC Pipe	Reconstructions	58
RC Pipe to RC Box	Reconstructions	02
RC Pipe to RC Box	Reconstructions	03
RC Pipe to RC Box	Reconstructions	01
RC Pipe to RC Box	Reconstructions	02
RC Pipe to RC Box	Reconstructions	01
RC Pipe to RC Box	Reconstructions	01
RC Pipe to RC Pipe	Reconstructions	15
RC Pipe to RC Pipe	Reconstructions	12
RC Pipe to RC Pipe	Reconstructions	02
RC Pipe to RC Box	Reconstruction (Armco Pipe)	01
RC Pipe to RC Box	Reconstruction (Armco Pipe)	01

Description	Proposal	Numbers
RC Pipe to RC Pipe	Widening	12
RC Pipe to RC Pipe	Widening	01
	<b>Total</b>	<b>111</b>

The Contractor shall ensure that all the maintained existing precast concrete pipe culverts are cleaned.

## II. Box Culverts

The works shall involve installation of box culverts with different sizes and number of cells. Some box culverts which were found both hydraulically adequate and structurally sound shall be maintained. However, these box culverts shall be extended to meet the design road width. Other box culverts, which were found hydraulically inadequate or structurally not sound, shall be replaced. The details as follows:

Description	Proposal	Numbers
RC Box	Widening	02
RC Box	Widening	01
RC Box	Widening	01
RC Box	Widening	01
RC Box	Reconstructions	01
RC Box	Reconstructions	01
RC Box	Reconstructions	01
RC Box	New Construction	01
	<b>Total</b>	<b>09</b>

## III. Bridge and major structural works:

The works shall involve reconstruction of Liwawazi, Chimwalire and Naliswe Bridges with pedestrian footpath as specified and given in drawings. The Inventory and the Recommendation plan details as follows:

S/N	Structure	Location ( Km)	Proposal
1	ROB	28+270	New construction
2	VUP	28+215	New construction
3	VUP	28+325	New construction
4	Liwawazi Bridge	35+964	Reconstruction
5	Chimalire Bridge	44+500	Reconstruction
6	Naliswe Bridge	47+640	Reconstruction

### 1.2. Climate



The project site starts from Nsipe in Ntcheu district through Chingeni up to Mangochi Turn Off junction in Balaka District and the climatic conditions for this project area as shown in the table below;

Climatic Conditions

	<b>Ntcheu</b>	<b>Chingeni</b>	<b>Balaka</b>
Mean Rainfall	1347.9mm	1000mm	1121.8mm
Mean Temperature	23 <sup>0</sup> C	22 <sup>0</sup> C	30 <sup>0</sup> C

## **SECTION VII - B SPECIFICATIONS**

### **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-1:**

#### **PARTICULAR SPECIFICATIONS FOR ROAD, STORMWATER DRAINAGE AND**

## **BRIDGE WORKS**

### **PART B-2:**

#### **PARTICULAR SPECIFICATIONS FOR ENVIRONMENTAL MANAGEMENT PLAN**

**Part B-1: PARTICULAR SPECIFICATIONS FOR ROAD, STORM WATER DRAINAGE AND BRIDGE WORKS****SECTION 1100: DEFINITIONS AND TERMS**

*Add following to the definitions*

**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****PS 1202 Services**

*Add the following sub-clauses after clause 1202 of the standard Specifications*

(a) Protection of Services

The Contractor shall take special care when excavating or when carrying out any work under the contract not to damage existing pipelines, drains, cables or any other underground service or to disturb the stability of poles or towers supporting electricity or telephone lines, and shall take necessary measures to protect them. All work or protective measures shall be subject to approval by the Engineer.

(b) Proofing for Underground Services

Before commencing construction, the Contractor shall carry out detailed investigation to determine the exact positions of existing underground services likely to be affected by the works whether these are shown on drawings or not. He shall carry out and complete such investigations well in advance of the date scheduled to commence construction of permanent works, and shall liaise closely with utility companies and Local authorities to obtain all available information pertaining to existing underground services.

The Contractor shall be at liberty to employ any method he desires to carry out investigations and shall allow in his programme of work sufficient time for carrying out investigations and for relocating and/or protecting services affected by the works.

The Contractor shall submit written report(s) of his findings concurrently to the Engineer and the owner(s) of the affected services in good time to allow them adequate time for planning and procurement of resources that may be required for the protection or relocation of services affected by the works.

The Contractor shall comply in all respects with the provisions of this clause as he will not be compensated in any way for any delay or disruption to the rate of progress of the works that may arise as a result of underground services encountered.

The Contractor shall be deemed to have allowed in his tender all costs for complying with this requirement.

(c) Excavation Across or Along an Existing Service

Before excavating across or along an underground service, the Contractor shall submit to the Engineer for his approval, the method, care and precautions the Contractor will take in order not to damage the service. The Contractor shall not carry out any excavation within 3 m of an underground service before the Engineer has approved in writing his work method. Such approval will not relieve the Contractor of any of his obligations under the Contract. No separate payment will be made for carrying out work within the vicinity of an existing service and the Contractor will be deemed to have included in his tendered rates any additional perceived costs.

(d) Damage and Repairs to an Existing Service

The Contractor shall take all precautions when conducting investigations or when constructing permanent or temporary works not to damage existing services. In the event of a service being damaged, the Contractor shall immediately notify the Engineer.

The Contractor shall when instructed to do so, immediately repair the damaged service to the specification of the service owner and to the satisfaction of the Engineer. If the Contractor fails to repair the service immediately after receiving written instruction to do so, the Engineer will arrange for the damage to be repaired by others, and the cost of the repair will be deducted from money due and payable to the Contractor.

If the owner of the service elects to carry out the repair using his own resources or by employing specialist sub-contractor, the Contractor shall cooperate with and allow the owner access and sufficient space and time to carry out the repair. The cost of the repair shall be borne by the Contractor.

(e) Protection and Relocation of Services

The Contractor shall not protect or relocate an existing service without written instruction from the Engineer.

Relocation and protection of services necessitated by the execution of the Works will be paid for using rates tendered for similar work items. Where there are no tendered rates, the Contractor shall submit rates complete with their details to the Engineer for his approval. No payment will be made for work not instructed in writing and inspected by the Engineer after its completion.

(f) Declaration of Compliance

Prior to commencing construction, the Contractor shall submit to the Engineer in an approved format, written declaration to the effect that he has complied in all respects with the requirements of this clause and that he will bear the cost of repairing any service damaged by him. No payment will be made for work executed before the Engineer has received the declaration.

**PS 1204 Programme of Work**

Add the following at the beginning of the clause 1204:

Tenderers shall submit with their tenders an overall preliminary construction programme in the form of a bar chart. The programme shall be submitted on at least A3 paper size.

The Tenderer shall also submit a separate copy of the Contract critical path with his tender. The chart must show at least the following information:

- (a) The programmed time for carrying out each of the activities detailed on the chart.
- (b) The dependencies existing between various items of work.
- (c) The allowances made for sub-Contractors.
- (d) Establishment of plant.
- (e) Shutdown periods proposed by the Contractor.
- (f) The critical path for the work to be undertaken.
- (g) The number of skilled and unskilled persons involved in each activity
- (h) The plant and equipment used for each activity.
- (i) Average production rates for each activity.

After the award of the tender, the programme as shown on the Overall Preliminary Construction Programme submitted by the successful Tenderer shall become the basis for the preparation of the Construction Programme required in terms of Clause 8.3 of the Conditions of Contract.

The Contractor shall submit the Clause 8.3 Programme of executing the works in accordance with Contract requirements. The original and three copies of the programme shall be presented on A0 paper size and shall be clearly legible.

The Contractor shall submit with his Programme of Work the method statement as described below and predicted monthly Interim Payment amounts.

### **Method Statement**

Each Tenderer shall, with his Tender, submit a comprehensive method statement, which shall give full details of his proposed methods, equipment and sequence of operations. The method statement shall be deemed to form the basis on which the Tenderer intends carrying out the Works and shall be used in the evaluation of Tenders.

Failure by any Tenderer to submit a comprehensive and complete report with his Tender may result in the Tender being rejected. The method statement shall be subsequently incorporated in the Contract Documents and shall form part of the Contract.

The method statement shall as a minimum contain the following information:

- I. Name of Tenderer;
- II. The organisational structure of the key site staff and the names of the principal persons involved, together with a brief statement regarding previous similar experience and length of time employed by the Tenderer. This must also include details of subcontractors and specialists;
- III. Labour to be employed (approximate numbers). The numbers of skilled and unskilled workers shall be summarized in the form of a labour histogram to show the

likely variation in the labour force during the Contract. A distinction shall be made between citizen and non-citizen employees;

- IV. Details of where the various items of major installations, plant and equipment will be located;
- V. Proposed suppliers of:
  - (i) Cement
  - (ii) Reinforcement
  - (iii) Other Roads and Bridge Construction Materials
- VI. Details of proposed protection to existing services;
- VII. Details of proposed method of construction. The proposed methodology shall tie in with the proposed programme.
- VIII. Details of the contractor's quality assurance procedures including the number of staff solely involved in the quality audit and the persons responsible for managing the Contractor's quality assurance procedures;
- IX. Training of citizen employees is considered to be an integral part of this project. The Tenderer should submit details of all training he proposes to undertake during the course of the project.

#### **PS 1205 Workmanship and Quality Control**

Add the following to the first paragraph of the Clause 1205 of the Standard Specifications

"The Contractor shall, together with the Engineer, formulate a Quality Assurance Plan (QAP) that shall comply with the guidelines of the Employer, prior to the commencement of the works. The QAP shall be handed to the Engineer together with the programme.

##### **(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 2<sup>nd</sup> Edition, published by the South African Department of Transport, 1986.
5. South African Bureau of Standard Specifications, (SABS)

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 ten (10) 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 rest of the laboratory personnel shall consist of at least the following:

Laboratory technicians.....	3
Laboratory assistants.....	10
Laboratory labourers.....	20

At least two single-cab vehicles must also be made available for the exclusive use of the laboratory."

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.

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 1377:1990 (1-9) "Methods of Testing Soils for Civil Engineering Purposes".**

Method

- 1.0 General requirements and sample preparation.
- 2.0 Classification tests.
- 3.0 Chemical and electro-chemical tests.
- 4.0 Compaction related tests.
- 5.0 Compressibility, permeability and durability tests.
- 6.0 Consolidation and permeability tests in hydraulic cells and with pore pressure measurement.
- 7.0 Shear strength test (total stress).
- 8.0 Shear strength test (effective stress).
- 9.0 In-situ tests.

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: 1990 “Testing Aggregates”**

- 100 General requirements for apparatus and calibration.
- 105.2 Methods for determination of particle shape. Elongation index of course Aggregate.
- 109 Methods for determination of moisture content.
- 110 Methods for determination of aggregate crushing value (ACV).
- 111 Methods for determination of ten percent fines value (TVF) Sampling.
- 112 Method for determination of aggregate impact value (AIV).
- 113 Method for determination of aggregate abrasion value (AAV).

**BS 1881: 2011 “testing Concrete”**

- 113 Method for making and curing no-fines test cubes.
- 119 Method for determination of compressive strength using portions of beams  
broken in flexure (equivalent cube method).
- 122 Method for determination of water absorption.
- 129 Method for determination of density of partially compacted semi-dry fresh  
concrete.

Note:

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

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: 2018 “Road Surface dressing, bond coats, seals, preservatives and othersprays”**

Specification for the method of test for binder sprayers for accuracy of spread of binder (spray bar bench test).

**BS 8666:2005 “Specification for scheduling, dimensioning, bending and cutting of steel reinforcement for concrete”**

**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 building and equipment will revert to the Contractor 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.

**PS 1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS**

Add the following at the beginning of Clause 1206 of standard specification:

The Contractor will be deemed to have allowed in his programme and in his tender for complying fully with the requirements of this Clause. Note should be made of the fact that no separate or additional compensation of time and cost will be made for complying with the provisions herein.

(a). Access to Private Properties

Prior to commencing setting out of the works, the Contractor shall notify owners of private properties adjacent to the works at least fourteen (14) days in advance, of his intention to commence setting out and shall obtain their consent in writing to enter into their properties if necessary.

Should the Contractor encounter any problems in obtaining access to private properties, he shall immediately inform the relevant Local Authorities who together with the Employer may assist him in obtaining permission to access private properties. The Contractor shall allow in his clause 8.3 programme adequate time for liaison with private property owners and the relevant local authorities.

(b). Setting out and Control Data

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 fourteen (14) 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.

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 may arrange to reinstate or have new reference benchmarks reinstated by the Contractor at specific intervals and the cost of the re-establishment work will be paid either at cost as will be quoted by the Contractor or under Day Works all as will be instructed by the Engineer.

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".

The Contractor shall provide accurate control of line and level at all stages of

construction as follows:

(i) Roads

Control shall be at 25m on straights and at 10m on horizontal and vertical curves.

(ii) Storm water drainage

Control shall be at invert slabs and at inlet and outlet chambers and at change of direction or grade.

(iii) Fence lines

Control shall be at gate positions, change of direction and grade.

(iv) Underground cables and sleeves

Control shall be at road crossings, chambers and termination points.

Wherever necessary the Contractor shall re-establish level control profiles and stake-line pegs at sufficiently close intervals to accurately determine levels.

Setting out will not be measured and paid for separately and compensation for this work shall be deemed to have been included in the rates tendered for the various items of work.

The Contractor shall make all provisions necessary for the Engineer to check and measure the setting out of the Works and shall be in attendance to agree measurements and levels before construction commences.

(c). Specific Requirements for Survey and Setting out

(i) Fences

Fence lines shall be set out using coordinates issued by the Engineer. Fence lines shall be pegged at 40m intervals on straights and 20m on curves. Any obstruction encountered shall be picked and submitted to the Engineer in the format, "Name, Y, X, Z". The Contractor shall place 12mm steel pegs along the centre line of the fence

line and shall offset these from pole positions. The pegs shall only be removed after the erection of the fence.

(ii) Roads and Drain

Roads and drains shall be set out using centre line coordinates issued by the Engineer. The Contractor shall place wooden pegs on either side of the route of the road at 20m intervals on straights and on curves of radius greater than 1000m. Pegs shall be placed at 10m intervals on curves of radii less than 1000m. The pegs shall be long enough for the levels of various layers to be marked on and wide enough for chainages to be indicated thereon. The pegs shall be placed firmly on the ground and shall be offset so that the works does not disturb them. Any peg(s) accidentally removed or disturbed shall be reinstated as soon as this happens.

(iii) Pipelines

Routes of pipes shall be set out using the information issued by the Engineer. On Engineer's instruction, routes shall be modified to avoid physical obstacles encountered on site. The Contractor shall survey and mark the positions of the routes with appropriate wooden or steel pegs for Engineer's inspection. Should the Contractor encounter obstructions in the course of setting out, he shall immediately submit to the Engineer positions of the obstructions and his proposal for alternative routes of the pipelines in form of "Name, Y, X, Z" coordinates. Setting out shall be at 20 metre intervals and at changes of direction or at such other interval as may be instructed by the Engineer.

(iv) Buildings

The Contractor shall set out buildings using coordinates issued by the Engineer and dimensions shown on the relevant drawing and shall mark the finished floor levels on profiles for inspection by the Engineer.

(d). Setting out Procedure

- (i) The Contractor shall firstly set out the positions of the works in the horizontal plane and on completion he shall notify the Engineer who shall within three days of receipt of such notification, check the setting out and inform the Contractor in writing of its acceptance or otherwise.

Upon approval of the horizontal positions of the works the Contractor shall set out and mark on profiles the final levels of the works for Engineer's inspection and approval. All facets of the works shall be set out to allow a one off inspection.

- (ii) The Contractor shall set out the works based on the co-ordinates issued to him and will notify the Engineer in writing when the setting out and placing of pegs are completed. The Engineer will check the setting out and will notify the Contractor in writing his approval or otherwise of the setting out.
- (iii) When required to do so, the Contractor shall realign the whole or parts of the Works and no extra payment will be made for this work. The Contractor will be deemed to have allowed in his programme of works for this requirement.
- (iv) The Contractor shall submit to the Engineer in hard copy and in electronic format coordinates in the format "Name, Y, X and Z" of the works as set out. The coordinates shall be on national trigonometric system and shall not be truncated. This information shall be presented either in ASCII format or on spreadsheet such as latest version of Excel.

This information shall be submitted to the Engineer as soon as the setting out is completed, and the Contractor shall allow a period of fifteen (15) working days in his programme for the Engineer to recheck the design and if necessary to re-determine design coordinates to suit site conditions.

(e). Survey Information Discrepancies

The Contractor shall bring any discrepancies in line or level to the attention of the Engineer. This information shall be given to the Engineer before any excavation work is carried out and must be presented as soon as it is discovered so that corrective action can be affected without delay to avoid impediment on the Contractor's programme. All information shall be presented to the Engineer via plans and sections to cover the whole of the routes.

(f). Cadastral Survey

The Contractor shall, prior to commencing bush clearing, obtain from the relevant Department cadastral information of all properties within the work site and shall search for and protect existing pegs prior to commencing construction. The Contractor shall report any missing pegs to the Engineer and the Local Authorities. The Contractor shall when instructed to do so replace all missing pegs. The pegs shall be replaced by a Surveyor approved by the relevant Department. The cost of replacing missing pegs shall be agreed with the Engineer prior to survey. The Contractor shall replace free of charge any pegs damaged by him in the course of carrying out the works.

(g). Survey for Measurement and Works Control

(i) Survey for Measurement Purposes

After the Engineer has approved the setting out, the Contractor shall clear and grub the site and shall prior to removing topsoil, survey routes of roads, pipelines, and fences in sufficient detail for use as base data for measurement purposes. In the case of roads, fences, pipe lines and power lines survey shall be carried out in cross sections with the number of points and at the interval specified below. The results of the survey shall be submitted to the Engineer in electronic form, the format "Name, Y, X and Z".

(1) Roads

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.

(2) Fences, Cable, Power and Pipelines

Cross sections shall be taken at the same interval as the setting out. Each cross section shall cover a 5m wide corridor and shall contain a minimum of three points consisting of the centre line and a point on either side of the centre point. The points shall be in line and perpendicular to the centre line.

(ii) Survey for Work Control

The Contractor shall carry out survey as work progresses to ascertain that the horizontal position and final levels of road layers, pipelines, manholes, fence lines, building plinths and all other facets of work are maintained. Discrepancies between the design and the constructed work shall be



rectified before approval of the completed work is sought. Any discrepancies that cannot be rectified shall be reported to the Engineer immediately after their discovery. The Engineer reserves the right to reject any work falling outside the specified tolerances.

(h). Provision of Resources for Survey

(i) Provision of Survey Instruments

The Contractor shall procure and handover to the Engineer new survey instruments and accessories as may be specified by the Engineer after the issuance of the notice to commence. Setting out shall not commence before survey instruments and accessories have been handed over to the Engineer. Payment for the supply of survey instruments and accessories shall be at cost plus percentage mark-up, which shall not exceed two and a half (2.5) percent entered in the Bill of Quantities. The survey instruments shall revert to the Employer at the end of the Contract.

## PS 1207 Notices, Signs and Advertisements

Add the following paragraphs at the end of the Clause 1207 of the Standard Specification:

(a) Advertising

Advertising boards shall not be erected anywhere on site without the written consent of the Engineer.

Only notice boards, signs and advertising of design approved by the Engineer may be erected and only in the positions agreed by the Engineer. These shall be provided and erected at the Contractor's own expense and shall be removed from site at the commencement of the Contract Defects Liability Period or at such other time as the Engineer may prescribe.

The Contractor shall neither publish any information, drawing nor photograph relating to the Works nor use the site for advertising purposes except with the written consent of the Employer and subject to such conditions as the Engineer prescribe.

(b) Project Sign Boards

At the commencement of the Works, the Contractor shall provide and erect project signboards at positions to be agreed on site with the Engineer.

The layout and inscription on the boards will be as detailed in the drawings or as specified by the Engineer.

The Contractor shall maintain the boards throughout the Contract period and shall remove the same at the commencement of the Defects Liability Period.

Payment of the first Interim Certificate will not be made until the name boards have been erected.

## PS 1208 Measurements



**Add the Following paragraphs:**

The Work's shall be measured and paid for as outlined in the Standard and Project Specifications and as Scheduled in the Bills of Quantities.

The Contractor shall ensure that no work is covered before it has been measured and the quantities agreed in writing with the Engineer or his representative. The Contractor shall provide any assistance that may be required by the Engineer to measure the works efficiently and accurately. The Contractor shall compile "as built" quantities of the completed works continuously as construction proceeds, and shall obtain written approval of these from the Engineer or his Representative.

**PS 1209          Payment****Add the following paragraphs:****(i)          Period of Maintenance**

Reference to "period of maintenance" shall mean "Defects Liability Period".

**(ii)          Taxes**

Any reference to "all tax" shall mean to include "duties".

**(iii)          Provisional and Prime Cost Sums**

The Contractor shall include in his tender the Provisional Sums and Prime Cost amounts stated in the Bill of Quantities to be at the disposal of the Engineer. The whole or any part of such moneys not required by the Engineer shall be deducted from the amount of the Contract on re-measurement.

The Contractor shall allow for mark ups on provisional and prime cost sums as scheduled in the Bills of Quantities. Such mark ups will only apply to the amount (s) expended.

**PS 1210 Certificate of Completion of the Works****Add the following paragraphs:****(i)          Certificate of Completion of the Works**

"Certificate of Completion of the Works" shall mean "Taking-Over Certificate".

**(ii)          Issuance of Taking-Over Certificate**

The Taking-Over Certificate shall be issued in accordance with the requirements of the Conditions of the Contract when the whole of the Works have been completed to the satisfaction of the Engineer. Opening of a section of road to public traffic before completion of the whole of the Works, 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 at the end of clause 1214 of Standard Specification

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.

**PS 1215 Extension of Time Resulting from Abnormal Rainfall**

Add the following after 2nd Paragraph of Clause 1215 of Standard Specification

The method that will be used for determining extension of time resulting from abnormal rainfall shall be Method 2 - Critical-path method.

The value of "n" shall be as shown in Table 1215/1.

Abnormal rain as shown in Table 1215/1 shall be proven by rainfall records for previous five years (prior to contract start date) from Metrological 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 1215/1 shall be taken into account:

**Table 1215/1: Anticipation days ("n" working days) lost due to climatic conditions:**

Month	Rain days
January	15
February	15
March	16
April	9
May	3
June	0
July	0
August	0
September	0
October	1
November	6
December	8
Total	69

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 1215/1. 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)

**PS 1216 Information Furnished by the Employer***Replace Entire Clause 1216 of the Standard Specification with the Following*

Certain information contained in these Contract documents or provided separately is being offered in good faith but, in the circumstances pertaining to the type of information furnished, no guarantee can be given that all the information is necessarily correct or representative of the in situ conditions.

This applies more specifically to all soil tests, soil mapping, drilling results, geophysical surveys, geological reports, borrow-pit information, material surveys and reports, and similar information, the accuracy of which is necessarily subject to the limitations of testing, sampling, the natural variation of material or formations being investigated and the measure of certainty with which conclusions can be drawn from any investigations made. It also applies to any materials-utilization diagram provided, as the diagram may be subject to major alterations during the progress of the work, depending on site conditions.

The Employer will not accept any liability or responsibility for the correctness of any of the information provided regarding site details including sub-surface, hydrological conditions and environmental aspects. The Material Report along with any other report shall not form part of this contract. It is for information purpose only.

Any reliance placed by the Contractor on this information shall be at his own risk.

**PS 1217 Protection of the Works and Requirements to be met before Construction of New Work on Top of Completed Work is Commenced***Add the following paragraphs at the end of clause 1217 of the Standard Specifications:*

"The Contractor shall be responsible for the protection of the Works. The Contractor shall properly deal with and dispose of water irrespective of its source, to ensure that the Works are kept sufficiently dry for their proper execution. For this purpose, he shall provide, operate and maintain in sufficient quantity such pumping equipment, well points, pipes and other equipment as may be necessary, and he shall also provide any sumps, furrows, coffer-dams and other temporary works as may be necessary to minimize damage, inconvenience or interference. No separate payment will be made for complying with this Clause.

On cessation of the works each day, the surface of each completed layer shall be trimmed, so that ponding and concentration of surface run-off does not occur. Should any water accumulate on any part of the Works either during construction or after construction until the

End of the Defects Notification Period, giving rise to soaking or eroding conditions, the Engineer may order the Contractor to remove and replace, at the Contractor's expense, any material or Works that have been so affected.

Any damage to the Works or to adjacent properties resulting from the Contractor's failure to take the necessary precautions shall be made good at the Contractor's expense."

**PS1219 Water**

Add the following paragraphs at the end of Clause 1219 of the Standard Specifications:

The Contractor shall be solely responsible for the location, procurement transportation, storage and distribution of water adequate in quality and quantity to meet his obligations under the Contract and for maintenance of water source(s). The Contractor shall be deemed to have liaised with the relevant authorities responsible for water supply within the project area on whether water for the works and for domestic use can be drawn from their existing water reticulation or supply sources.

The Contractor shall be deemed to have satisfied himself at the time of tender as to the source(s) of water and the cost(s) associated with prospecting, developing, maintaining and the use of such sources, to the levies payable to relevant Authorities. The Contractor shall ensure that source(s) of water for the works will not have any negative impact to the members of the community.

Any temporary pipelines supplied and laid by the Contractor shall be removed before or at the end of the construction period. All boreholes drilled by the Contractor shall be capped after they are no longer required.

Water for drinking purposes for the Engineer's Offices and Residential Accommodation shall be mineral bottled water. No direct payment will be made for providing water. The Contractor shall be deemed to have included in his tendered unit rates for all obligations for the location, procurement, storage, Distribution, application, etc. and maintenance of water sources(s). No additional payment or Extension of time will be granted due to Contractor's failure to comply with this Clause.

**PS 1222 Use of Explosives**

Add the following paragraph at the end of Clause 1222 of the Standard Specifications:

The Contractor shall prepare a method statement showing how he will carry out removal of rock in built up and non-built up areas and shall submit this information to the Engineer at least twenty-eight (28) days ahead of the date programmed for rock removal.

No blasting will be allowed in built up areas. Prior to blasting where this is authorized, the Contractor shall take photographs of buildings likely to be affected by blasting. Photographs of the same buildings shall be taken again after blasting and shall be kept by the Contractor for the duration of the contract. The purpose of the photographs is to aid the Contractor and the Engineer in determining whether blasting affected buildings or not. The Contractor shall be deemed to have included the cost of this requirement in his tendered rate for rock removal.

Blasting in authorized areas shall be carried out by a specialist person with proven track record. The Contractor shall submit details of this person's Curriculum Vitae soon after commencement. The Engineer's decision on whether the proposed person is acceptable or not shall be final.

**PS 1224 The Handing-Over of the Road Reserve**

Add the following paragraph at the end of Clause 1224 of the Standard Specifications:

The Contractor shall not enter upon any part of the Site without the written permission of the Engineer. He shall before entering the Site give 14 days' notice of his intention to do

so to the Engineer. Provided that no such notice will be given before the contractor has served all necessary Legal Notices to the owners, lessees and Occupiers of lands, affected by the works. The Engineer shall after satisfying himself that such notices have been served, issue permission to the Contractor to enter the site.

#### **PS 1227 Monthly Site Meeting**

Add the following at the end of First Para of Clause 1227:

(a) Site Meetings Attendance

The Resident Engineer and the Site Agent shall hold site meetings every month to discuss the progress of the works and other technical and contractual matters. The Employer, the Engineer and other relevant and interested parties will also attend the site meetings.

(b) Venue for Site Meetings

The Contractor shall arrange for the venue of the meetings and shall provide adequate facilities for at least ten (10) people excluding his own staff. The Contractor shall serve lunch and soft drinks at all site meetings.

Add the following clauses after Clause 1229 of the Standard Specification

#### **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)

Land to be identified and acquired by the Contractor

- i. The Contractor shall provide and maintain such buildings and shades 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 negotiation 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)

#### **PS 1231 Records**

(a) General

The Contractor shall prepare and maintain records of the materials and labour employed on the Works together with plans and charts showing the positions, levels, dates and progress of all main operations. Records of progress of the works, weather conditions, works activities carried out, problems encountered,

instructions issued or required, delaying factors, etc. shall be kept in form of a diary and shall be counter signed by the Resident Engineer at the end of each day's work. The format of the Diary shall be subject to the Engineer's approval prior to commencement of the works.

The results of all tests carried out on the Works shall be handed to the Engineer's Representative at the end of each day.

(b) Contemporary Records

Contemporary records relating to claims for additional compensation or extension of time must be kept by the Contractor as stipulated in sub-clause 20.1 of the General Conditions of the Contract.

In order to enable the Engineer to properly assess the extent and validity of all claims when they are submitted at a later date, all circumstances relating to claims must be investigated, recorded and agreed upon between the Contractor and the Engineer at the earliest practical opportunity.

For this purpose, the Contractor shall furnish the Engineer on a daily basis, with records of facts and circumstances that the Contractor considers relevant and may wish to rely upon in support of his claims. The information must be recorded and submitted in a form and manner approved by the Engineer.

The Engineer and the Contractor shall, at the time of recording, indicate in writing and by their signatures, their agreement or disagreement as to the correctness of the information recorded.

For the purpose of this clause additional compensation shall be taken to mean compensation over and above the payments at Unit rates tendered or agreed upon for 'extra work' ordered by the Engineer.

**PS 1232 Damage to Public and/or Private Property**

(a) Indemnity

The Contractor shall indemnify and hold indemnified the Employer against all losses and claims for injuries and damage to public or private properties whatsoever (including surface or other damage suffered by owners, tenants or occupiers to land or crops) which may arise out of or in consequence of the construction and maintenance of the Works and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

The Contractor shall immediately investigate all claims brought to him and shall avail copies of the results of the investigation to the Engineer and the Employer. The Contractor shall within three days of finalizing the investigation, prepare a report setting out the course of action he would take to address the findings relating to the claims. The Contractor shall employ a qualified and approved person to assess damages to properties or injuries to persons and shall settle claims pertaining to these within one month of receipt of the assessment report. Should the Contractor fail to settle the claims, the Engineer shall have the authority to deduct from the following interim payment certificate the relevant amounts and have the claimants paid directly by the Employer using the deducted monies.

(b) Roads, Paths and Fences

The Contractor shall provide for making good any damage done by himself or his Sub- Contractors to public or private roadways, pathways or fences during the period of the contract. Any work in this respect shall be at the Contractor's own expense.

**PS 1233 Temporary Buildings and Sheds**

The Contractor shall provide and maintain such buildings and sheds as may be 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 will 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.

**PS 1234 Toilet Facilities**

The Contractor shall provide and erect on site to be approved by the Engineer, properly screened water borne sanitary facilities for the use of all workmen, including Sub-Contractor's workmen if any, employed on the Works.

The toilets shall be maintained in a clean and orderly condition and on completion of the Works, or when ordered by the Engineer, they shall be removed from the site and the Contractor shall restore the site to a clean and sanitary condition.

**PS 1235 Accommodation for Employees**

The Contractor shall allow in his tender for the provision of all necessary canteen, first aid facilities and other accommodation and services for his employees. Provision shall also be made for maintaining them in a neat and clean condition throughout the construction period and for reinstating the site on completion of the works, to the satisfaction of the Engineer.

Accommodation for employees shall be in the form of approved buildings. Delta Huts (prefabricated metal cabins normally used for storage of materials) will not be permitted as a form of accommodation.

**PS 1236 Pollution**

The Contractor shall take all reasonable measures to minimize any dust nuisance, pollution of streams and inconvenience to or interference with the public (or others) as a result of the execution of the Works. If the Contractor fails to comply with this requirement the Engineer shall after seven days written notice to the Contractor, employ third parties to suppress dust and the cost thereof shall be deducted from monies payable to the Contractor.

**PS 1237 Safety**

The Contractor shall at all times observe proper and adequate safety precautions on the Site. Where adequate safety precautions are not being observed, the Engineer may order the Contractor to comply with minimum safety requirements at the Contractor's expense, and compliance with such an order will not absolve the contractor from any of his responsibilities and obligations under the Contract.



**PS 1238 Ground and Access to Works**

The Contractor shall occupy only such ground as is necessary to carry out the work. He shall provide and maintain such access to the various sections of the works as he requires for the proper execution of the work. All fences and other structures that have been damaged or interfered with by the Contractor shall be restored to the original condition or where this is not possible, to a condition as close as possible to the original condition.

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 which 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 1239 Temporary Electrical Power Supply**

The Contractor shall make arrangements at his own cost for the supply and maintenance of electricity adequate to meet his obligations under the Contract including the testing and commissioning of the works.

**PS 1240 Issue of Documents**

One copy of the signed Contract document and two sets of drawings and setting out data will be issued to the Contractor free of cost.

**PS 1241 Discrepancies between Specifications and Drawings**

Should there be any discrepancy between the drawings or sketches and the specifications or any inconsistency in either, reference must be made to the Engineer for an explanation of the same and the Contractor will be held responsible for any errors that may occur on the work from the neglect of this precaution.

Should anything be omitted, either in the drawings or specifications, which is fitting or usually considered necessary for the completion of the work, the Contractor shall after notifying the Engineer in writing execute the same as if it had been particularly specified or shown and shall supply whatever materials and plant necessary to complete the work. No payment will be made for any such omitted works unless the Engineer has been notified of the omitted work and has agreed in writing the manner in which the omitted work is to be paid for.

**PS 1242 Reporting of Accidents**

The Contractor shall report every accident which occurs on the road, within the extent of the Works, to the Engineer within twenty-four (24) hours of such accident, irrespective of whether such 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 accident. Photographs of each 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 accident. The Contractor shall also keep a comprehensive



record of all accidents which occur on the road and shall make such records available to the Engineer on demand.

### **PS 1243 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. Placing of kerbs and concrete edging.
- (e) Erection of road signs.
- (f) Base correction.
- (g) Back chipping during surfacing operations.
- (h) Application of bitumen if so required.
- (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.

### **PS 1244 Environmental Impact Control**

Before any work is commenced on the Site, the Contractor's site management staff including foremen shall attend an environmental 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 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 of the Contractor, the requirements of the Project Environmental Management Plan contained in the Contract documents 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 of the amounts to be paid for Contractor's preliminary and general items. No separate payment shall be made for complying with this requirement.

#### **PS 1245 HIV/ AIDS Prevention Programme**

The Contractor shall from the commencement of the contract through his SHE-Officer implement a generic AIDS awareness training programme for all permanent and temporary workers of the main contractor and all subcontractors. The type of training and the training material for the structured training programme shall, as far as possible, be accredited by the Ministry of Health and Education 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:

- (a) Transport of the selected workers (as necessary)
- (b) 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. The SHE-Officer 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 SHE-Officer shall prepare a quarterly report on the programme.

**SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS****PS 1301 Contractor's General Obligations**

*Add the following paragraphs:*

(a) Accommodation Camps

The Contractor will be responsible for identifying suitable land for construction of temporary camps for his employees. The land will be subject to the approval of the relevant Local Authorities, and the Contractor will pay all costs levied on such land.

All camps shall be properly fenced around the perimeter with as a minimum a 1.8 m height razor taped mesh. The contractor's offices, laboratory and store's and engineer's office s shall be provided with sufficient perimeter lighting.

No trees shall be cut on site without the prior permission of the Engineer.

Sanitary conditions shall be maintained at all times to the satisfaction of the Engineer.

Only water borne sanitation systems will be allowed. Where municipal sewer exists, the Contractor shall connect the facilities to the nearest existing and functioning sewer manhole.

Add the following Sub clauses after (c)

**d) Medical Emergencies**

The Contractor, as part of his general obligations:

- 1) Shall provide sufficient medical emergency equipment,
- 2) Shall have qualified staff that are trained in the use of the emergency equipment,
- 3) Shall have the required arrangements in place to transport the person in need to required hospitals, including emergency air or helicopter transport to there. The provision of the emergency medical services shall not be paid for separately, but the Costs thereof shall be deemed to be included in the Contractor's tendered rates for the Items included under Section 1300."

**PS 1303 PAYMENT**

Add the following;

(a) Limit of Contractor's General Obligations

The amount tendered for Pay Items 13.01 (a), (b), (c) shall not exceed fifteen (15) percent of the value of the tendered amount for the Total of Bills.

(b) Time-related Items

Payment for time-related items will be effected as scheduled and tendered by the Contractor. Payment shall be limited to the approved contract period.

(c) Contract Price Adjustment for Contractor's General Obligations.

The Amounts tendered in respect of Contractor's General Obligations items shall not be subject to cost adjustment due to variation of prices of materials and/or labour.

Add the following pay items at the end of the Clause 1303 of the Standard Specification

**PS13.02 Compensation to local population:**

- (a) Compensation for relocation of Services..... PS
- (b) Handling costs and profit in respect of Sub-item 13.02(a)..... %

**Item**

**Unit**

**PS 13.03 Relocation of Water Utilities**

- (a) Provisional Sum for Relocation of Water Utilities. ....Provisional Sum (P.S.)
- (b) Handling costs and profit in respect of sub-items PS13.03 (a) and state as % and extend as an amount .....Percentage (%)

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 water utilities by the Contractor and others. The provisional sums shall be expended only with the approval of the Engineer.

**PS 13.04 Relocation of Telecommunications Services**

- (a) Provisional Sum for relocation of Telecommunications services. ....P.S.
- (b) Handling costs and profit in respect of sub-items

PS13.04 (a) and state as % and extend as an amount... %

The contractor has to enter the percentage in the rate column and then calculate the amount for pay item PS13.04 (b). The provisional sum allowed under sub item (a) shall be expended to cover the actual costs for the protection and moving of Telecommunication services by the Contractor and others. The provisional sums shall be expended only with the approval of the Engineer.

**PS 13.05 Relocation of Electricity Services**

- (a) Provisional Sum for relocation of electricity services.....P.S.
- (b) Handling costs and profit in respect of sub-items PS13.05(a)and state as % and extend as an amount) ... ..%

The contractor has to enter the percentage in the rate column and then calculate the amount for pay item PS13.05 (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.

**PS13.06 Aids Awareness Training**

- (a) Training... ..... P.S.
- (b) Remuneration of the workers undergoing training..... P.S.
- (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 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 PS13.06 (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 Publications .....P.S.

(b) Handling costs and profit in respect of sub-items PS13.07(i)

(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(a) 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

### **PS13.08 Dispute Review Board**

(a) Payments to the Dispute Review Board members for their consulting services .....PS

(b) Handling costs and profit in respect of sub-items PS13.08(a) (stated as % and extend as an amount)

"The stated provisional sum shall be employed to cover the cost of appointing and retaining a Dispute Board. The sum shall also be used to pay the DB for his services in the event of a dispute as described in the General Conditions of Contract. The sum allowed under this item provides for the financing of the Employer's 50 % share of the DB costs."

The percentage tendered for pay item PS13.08 (b) shall be applied to the amounts expected under pay items PS13.08 (a) to generate an amount that covers all the monies required by the Contractor for managing the cost of appointing and retaining a Dispute

Board, and any other costs that may arise from these payments, including any Contractor's profits and overheads

Item	Description	Unit
PS 13.09	Project Sign Boards	
(a)	Providing, erecting and maintenance of signboards and their removal on completion of the contract.....	No.

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

*Replace clause 1401 of the Standard Specification with the following:*

**PS 1401: GENERAL REQUIREMENTS FOR THE ENGINEER'S HOUSES, OFFICES AND LABORATORIES**

Construction of offices and laboratory facilities for the use of the Engineer and staff shall commence immediately after the official commencement date. The buildings shall be ready for occupation and use by the Engineer within ninety (90) days (including days for mobilization) of the official commencement date.

The Contractor shall construct offices and testing laboratories as shown on the Drawings. Workmanship, materials and finish shall be to the satisfaction of the Engineer, who shall also approve the siting and orientation of all buildings. All buildings provided under the Contract shall be of prefabricated units. Whilst the size and general layout of the buildings shall be adhered to, construction details may be modified.

The Contractor shall make all arrangements and pay all necessary charges for the provision and maintenance of the following services to each building 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

The reticulation network and the wiring installation of all buildings shall be installed and 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. Wastewater 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.

During periods of maintenance, repair or breakdown of equipment, furniture or appliances (such as the photocopier, computer system, refrigerator, deep freezer, cooker, etc.), the Contractor shall provide the Engineer temporary replacements or, failing to do that, reimburse the Engineer for all costs incurred as a result of the Engineer's procuring those services from other persons.

The Contractor shall provide adequate 24 - hour security for the Engineer's houses, offices, and laboratories including the full-time attendance at each house of a gardener, guards and house worker. The Contractor shall take all reasonable precautions to prevent unauthorized entry to the Engineer's houses and laboratories and to ensure overall security of camps, field offices, field laboratories and the site in general.

The Contractor shall provide a back-up generator for the electric supply to the Engineer's and Contractor's offices, laboratories and the Engineer's houses. The generator shall have sufficient capacity to supply those facilities.



Ownership of all the buildings, services, fittings and associated works, shall remain with the contractor at the end of the Contract or at such earlier date as the Engineer may instruct.

## **PS 1402 OFFICE AND LABORATORIES**

Replace sub clause "1402(a) and (b) with the following:

### **PS 1402 (a) Engineers Offices**

The contractor shall erect brand new offices for the use of the Engineer and his staff and properly maintain them at his own cost for the total duration of the Works. Should the Contractor wish to use prefabricated units, then the Contractor is to request the same in writing from the Engineer.

The Employer will make the ground acquisitions for the office facilities. The location, the setting and the orientation of the said offices shall be to the Engineer's written instruction to that regard. It is important that the Contractor ensures that all construction complies with the appropriate and applicable statutory provisions operative in the area concerned. If, for whatever reason, the Contractor decides to relocate the Engineer's offices to a new site at a later date, the cost of relocation shall be borne by the Contractor.

### **PS 1402 (b) Office Specifications**

The Contractor is required to construct offices that have an inside area of not less than 100m<sup>2</sup>. It shall be divided into 7 no offices with interconnected cover corridor, kitchen, store, two toilets facilities (i.e. Male/Female) and a large conference room. The offices shall be constructed in accordance with the following

- D Construction shall be with timber, fibre cement, or other approved materials
- The building shall have double wall filled with insulating material and lined on the insidewith timber or other approved material;
- D The floors shall be timber floors or concrete floors with vinyl floor tiles or carpeting
- The clear height of all offices between finished floor and finished ceiling shall be a minimum of 2.7m
- The window area shall be at least equal to 25% of the floor area and all windows shall be of the type that can open over the full window area
- All windows and doors exposed to the outside shall have Fly/mosquito screens and protected with steel bars
- Each door shall be provided with a lock and two keys
- The buildings shall be painted with an approved paint after erection. The paint work shall be maintained during the contract period at the Contractor's own cost
- All offices shall include the provision of 220 volt electricity (3 phase), fresh clean potable water and sewerage, including septic tanks, if necessary
- Covered car port with minimum of 6 cars



Stores shall have galvanized corrugated steel roofs and 100 mm thick concrete floors. The sides of the stores shall be fenced off from floor level to the roof with 50 mm diamond-mesh wire. Each store shall have one lockable door.

The Contractor shall take all responsible precautions to prevent unauthorized entry to the offices and ensure the general security of these offices by providing a proper security system, and 'around the clock' guards at his own expense. In the event of any theft, the Contractor will be responsible for the immediate replacement of all stolen items (i.e. equipment and furniture), based on the submitted police report, at his own expense.

The Contractor is to provide cleaning and maintenance personnel in order to keep the facilities clean and properly maintained throughout the Contract period. Immediate maintenance shall be upon the written request of the Engineer.

The Contractor shall make all necessary arrangements with the appropriate authorities for the payment of all charges and fees in connection with the electricity, gas, water and telephone bills throughout the project duration.

### Engineers Office Fittings

Unless otherwise specified or detailed the fittings provided in accordance with the schedule of quantities, shall conform to the following requirements;

- a. Each wash hand basin shall be fitted with taps and a drain
- b. Each office (all rooms) shall be fitted with Air-conditioning/ heating units of split unit type with capacity not less than 18000 BTU to the approval of the Engineer
- c. Lights shall be of the fluorescent type either double 80 watt, single 80 watt or double 55 watt or of the incandescent type according to what is required or specified
- d. Provision of at least 3 no. 15 A electric power plug points in each office
- e. Carpeting shall be of high quality and shall be either tile carpets or fitted to the approval of the Engineer
- f. Fire extinguisher and
- g. Furniture for the Engineer's office

The Contractor shall provide following new *Furniture, Equipment, Stationery and Kitchen Set* for the Engineer's offices:

Sr. No	Description	Quantity
<b>Furniture:-</b>		
1	Writing desks each with 6 or 3 lock-up drawers	14
2	Tables without drawers	12
3	Conference table (5 m x 1.5 m)	1
4	L" shaped secretary's desk each with 6 lockable drawers	1
5	Chairs on wheels	14
6	Plastic chairs	14
7	Steel lockable cupboard with 4 shelves (H 1.8 m x W 1.2 m x D 0.3 m)	20
8	Side table	6
9	Filing cabinet with three drawers	6
10	White Board (approx. 2.4 rn') complete with board marker pens and eraser. The board shall have a tray at the base and be securely fixed to the wall.	14
11	Fire Extinguishers large	4

Sr. No	Description	Quantity
<b>Equipment:-</b>		
<b>1</b>	<b>Computers</b>	
	(a) <i>Computers with UPS</i>	
	(i) Desktop computer (with licensed software incl. AutoCAD) for CAD operator (Detailed specification will be given by the Engineer)	1
	(ii) Desktop computer (with license d software) for the Engineers and administration staff: (Detailed specifications will be given by the Engineer.)	9
	(iii) Laptop computers, 200 OB external drives	8
	(iv) 2 GB flash memory	10
	(b) <i>Printers</i>	
	(i) Laser printer (A-3, colour )	1
	(ii) Inkjet printer (A-3, colour)	1
	(ii) Laser printer (A-4, black & white)	2
	(c) Scanner (A-4)	1
	(d) Photo copy machine (A-3, black & white, heavy duty with Auto feeder)	1
	(e) LAN Networking for all computers and printers	LS
	(f) Highway design software for ground modelling and alignment	1
<b>2</b>	<b>Internet connection</b> High speed and required devices (Land line or wireless) for all computers (max 20 connections)	LS
<b>3</b>	<b>Telephone services</b> Note: The Prime cost sum mentioned in Pay Item PS14.02 (c), (i) , shall include the cost of all telephone and cellular phone calls (excluding Private calls) and the internet monthly contract costs.	LS
	(i) Cellular/Mobile Phones	10
	(ii) Land (or wireless) line for Resident Engineer.	1
	(ii) Land (or wireless) lines (one for fax) for Resident Engineer's Staff.	10
<b>4</b>	<b>Slide Projector with a screen</b>	1
<b>Stationery:-</b>		
1	Ink cartridges for all printers	As required
2	Copy paper s (A-4 and A-3) for all printers and photo copy machine	As required
3	Operation and maintenance contract for photo copy machine	As required
4	Original and licensed Microsoft Office Professional (latest Version) suite	10
5	Original and Licensed Microsoft Project (Latest Version)	8
	Original and Licensed WINZIP data compression software (Latest Version)	10
6	Original and licensed Autodesk AutoCAD (Latest Version)	3
7	Approved anti-virus software on each desktop computer and lap top computer including renewal of licenses and upgrade of the anti-virus.	10
8	Digital camera	2

Sr. No	Description	Quantity
9	GPS , portable type including rechargeable lithium batteries and charger	3
10	Staplers (Medium duty)	10
11	Long Reach stapler (Heavy duty)	2
12	Paper punches	10
13	Heavy duty paper punch	2
14	GBC C200 Comb Binder or similar capable of punching 25 sheets at a time and binding at least 400 sheets	1
15	GBC Heat-seal H310 pouch laminator or similar	1
16	A3 heavy duty paper cutter	1
17	First aid kit	1
18	Kit for snake bite	2
19	Waste Paper Baskets	16
20	Close stool with interface and connecting pipe for office & toilet	2
	Wall Mirror(0.5 m X 0.5 m) for Office & toilet	1
	Wash Basin with interface and connecting pipe	3
<b>Kitchen Set:-</b>		
1	Cupboard and shelves for kitchen	2
2	Four plate stove	1
3	Electric kettle	2
4	Refrigerator, minimum 300 litre capacity	1
5	Coffee mugs	24
6	Tea set complete for 12 people	2
7	Water glasses	24
8	Trays	4
9	Milk jugs	3
10	Water jugs	3
11	Sugar bowls	3
12	Teaspoons	24
13	Dishcloths	6
14	Dish towels	6
15	Pedal type dustbin large	2

#### **h. Maintenance or replacement of equipment provided by the Contractor**

The Contractor shall keep all equipment provided by him serviceable at all times. The Contractor shall repair/replace any defective equipment within three days after notification by the Engineer's staff. The Contractor shall also provide all paper (including special photo quality paper) printer, fax and photocopier toner cartridges, black and colour ink cartridges, CDRs, CD storage containers, and any other consumables required by the Engineer. The cost of the above shall be reimbursed to the Contractor under the relevant pay item in the Bill of Quantities.

#### **i. Provision of office stationery**

When the Contractor instructed by the Engineer shall provide office stationery such as pens, Pencils, erasers, rulers, scissors, writing pads, stapler, hole punch, toner cartridges and other Consumables necessary to ensure normal office functioning is not interrupted. The cost of the Above shall be reimbursed to the Contractor under the relevant pay item in the Bill of Quantities.

- j. All costs related with the land acquisition for the designated area for Engineer's offices shall be the expense of the Employer. Should the Contractor request a different location other than specified in the Contract documents, all related costs shall be borne by the Contractor unless otherwise approved for payment by the Engineer

### **Submissions**

The contractor shall, within 10 days from receipt of signature of Contract or receipt of letter to commence whichever date is earlier, submit to the Engineer for his approval the following documentation:

- a. Detailed shop drawings of the proposed offices and layout (i.e. the offices, stores and notice board) inclusive of partitioning, electrical and mechanical features (i.e. telephone, electricity, water distribution and sewage), related common areas, etc.
- b. In case the office are ready made building such as prefabricated offices, the documentation required for the approval of supplier and respective fittings
- c. In case the offices shall be constructed on site, the documentation required for the approval of the Sub-Contractor and respective fittings
- d. In case of furniture, fittings and equipment, a complete list of the proposed items inclusive of 3 submissions from manufacturers inclusive of catalogues and other requirements

In all cases, no works shall commence or delivery made of offices prior to obtaining the approval of the Engineer on the complete submission of the Contractor.

Should the Contractor plan to relocate an office facility to a different location, he shall submit his schedule for doing so, justifying such schedule by reference to the Programme of Works, within thirty (30) days of the planned relocation.

### **Time for Completion**

The Engineer's office facilities required by this section shall be completed and made available to the Engineer within ninety (90) days of receipt of the Letter to Commence. Should the Contractor fail to make the office facilities ready for occupation within the stipulated period, he shall rent or otherwise provide suitable temporary office facilities of similar or equivalent standard to those specified and to the approval of the Engineer.

### **Reversion to the Contractor**

The ownership of all offices shall, when they are no longer required by the Engineer, revert to the contractor. The Contractor shall be responsible for the dismantling and removal from the site to approved designated area, if required and instructed by the Employer.

The Contractor is expected to properly maintain his establishment throughout the construction period at his own cost. No handing over will be made of the said facilities to the Employer prior to the obtaining of the certification and approval of the Engineer to that effect.

It is advised that the release of the Contractor's Performance Guarantee is tied up to the satisfactory fulfilment of this contractual obligation.

### **Method of Measurement**

The Engineer's offices will be measured for payment in accordance to the degree of completion of the stipulated works. Only accepted work will be included in the measurements.

No separate measurement shall be made for preparation of drawings, running (i.e. all telephone calls, electricity, gas water, office materials used in connection with Contract administration), maintain, cleaning, dismantling and removal of the site offices if required.

#### **Details of Computers, Printers and Power supplied for the Engineer's Office**

The Contractor shall provide approved new computers, printers, scanners, power supply elements and peripherals including all software required for use by the Engineers Site personnel. The Computers and software shall be specified by the Engineer at the commencement of the Works and procured under the provision sum

#### **PS 1415 Survey Equipment**

The Contractor shall supply and maintain the survey equipment as listed below (for the use of the Engineer) in full working order during the progress of the works. In addition, the Contractor shall provide necessary equipment such as compasses, plumb bobs, hand levels etc. necessary for checking the Contractor's survey, setting out and measurement of the works. All items listed below shall be new and supplied within one month from the commencement of the contract.

<b>S/N</b>	<b>Description</b>	<b>Quantity</b>
	Complete total station instrument with carrier case and tripod, 3 inch accuracy, Sokkia Set 300 or Topcon GTS-223 or similar equivalent	2
	Automatic Level (to incorporate horizontal circle) (minimum 2 magnification 26 times ) complete with tripod and levelling staff	2
	Data recorder / logger WORKABOUT with charger unit, including MULTISERV downloading and data processing software	1
	External 12V, 6 Amp NiCad rechargeable battery with connection cables	1
	Battery charger for above	1
	Battery cables, 4 m long, for connection to car battery	1
	Circular prism plus holder and carrier	2
	Prism poles extendable to approximately 3 m	2
	100 m PVC coated fiber glass measuring tape	3
	50 m Nylon -reinforced steel measuring tape	3
	30 m PVC coated fiber glass measuring tape	3
	Tape repair kits	4
	5 m tape with locking devices	20
	Ranging rods 2 m long	12
	Ranging rods 3 m long	12
	5 metre metric staffs with level bubbles and canvas covers	5
	Survey Umbrella	2
	Optical square	2

S/N	Description	Quantity
	5 kg hammer	1
	Claw hammer	1
	Hand axes	6
	Spirit levels 500 mm long	2
	Measuring wheel	1
	Level Books	As Required
	Field Books	As Required
	Steel Pegs	As Required
	Spray paint for marking road	As Required

All the topographic survey shall be performed using Total Station and the results shall be tied to the National Grid System (UTM) by means of the Basic Network landmarks.

Upon issue of the Certificate of Completion or when agreement on the final quantities has been reached, whichever is the later, the Survey Equipment shall remain the property of the Contractor.

#### **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 field books, pegs and cement 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.

#### ***Replace the following to Clause 1402 (c) – Laboratory as follows***

##### **PS 1402 (b) Site Laboratory**

The contractor shall erect and maintain, for the duration of the project, a testing facility of approximately 150m<sup>2</sup> inclusive with all utility services, furniture, equipment and fittings for use as the project's testing laboratory.

The laboratory shall be operated by the Engineer. However, the Contractor is required to provide the Engineer with all the assistance he may require in supervising and checking the sampling and testing work (i.e. ..., manpower, materials, etc..) at his own cost.

The laboratory shall be constructed brand new from treated timber, fiber cement or other approved materials to the satisfaction of the Engineer. In addition, the laboratory shall be air conditioned, isolated, dust and weather proof to provide comfortable working conditions. The laboratory shall consist of two rooms namely the testing facility room and the senior Material Technician's office.

All cost related with the land acquisition for the designated area for site laboratory shall be at the expense of the Employer. Should the Contractor request a different location other than specified in the Contract documents, all related costs shall be borne by the Contractor unless otherwise

approved for payment by the Engineer.

#### **PS 1402 (b) Laboratory Fittings and Furniture**

The laboratory, fittings and furniture shall be as follows:

1. One desk, ordinary chairs (2no), 4-drawer steel filing cabinet (1 no), telephone extension and unit (1 no), 15 ampere 220 volts (3 phase) electricity plug points and lights shall be as specified for offices.
2. Cupboards not less than 90cm x 183cm x 45cm overall dimensions with shelves and locks
3. A minimum of 2 no. air-conditioners/ heaters ceiling or floor mounted units
4. Shelf space provided against walls shall be of heavy construction and shelving shall be in suitable timber or fiber cement material depending on requirements. Shelving below tables shall be 390mm above floor level and above working areas 1,980mm above floor level.
5. Work bench with an area of 9 m<sup>2</sup> shall be of two types as may be required;
  - Of wooden construction. The tops shall be hard and smooth, free from wrapping or other defects
  - With concrete tops. The tops shall be at least 75 mm thick concrete slabs with a smooth hard steel troweled finish

All work benches shall be robust and their upper surface shall be 920 mm above floor level

6. Installation of gas fittings shall consist of the necessary gas cylinders, regulators, tubing and taps
7. High stools for use at work benches shall be robust and, if of fixed height, shall be 800 mm high
8. Where required, a 380 volt 3-phase electric power supply shall be provided. Power points for ovens and a crusher shall be suitable for the purpose. Power points in oven rooms shall be 1.2m above floor level.
9. Concrete working floors shall be at least 125 mm thick and provided with a hand smooth finish. The working areas shall either be entirely open or under a shelter as required
10. Wash basins (laboratory sinks) shall be as prescribed either in stainless steel or precast concrete with an area of at least 0.3m<sup>2</sup> and minimum depth of 0.3m. They shall be provided with swan neck type laboratory taps and drain pipes.
11. A supply of fresh clean potable water at a constant head of not less than 3m at the tap shall be provided. Storage capacity in respect of the laboratory water supply shall not be less than 2000 litres
12. Fire extinguishers shall be of the BCF (Bromo chloro fluoro methane) type manufactured to BS 1721 and suitable for Types A, B, C and E fires. The extinguishers shall contain not less than 2.5kg of extinguishing fluid and shall be fitted to the wall at suitable positions by means of quick release brackets. They shall be freshly charged and the seals shall be unbroken.
13. Extractor fans where required shall be mounted as to operate noiselessly. They shall have the capacity of at least 0.15KW each



14. Fume cupboards shall be constructed
15. Where required, concrete footings and pedestals shall be constructed to the dimensions indicated by the Engineer for installing certain testing equipment
16. When required, baths for curing concrete test cubes, beams and cylinders shall be made provided. The baths shall be rectangular in shape and regarding the inside dimensions the width shall not exceed 1.0m and the depth shall not exceed 0.7m. the baths shall be made from concrete, plastered brick, or other suitable material,
17. A 0.3m<sup>3</sup> capacity refrigerator shall be supplied
18. The contractor shall provide the necessary staff and personnel for cleaning, maintaining and the keeping of the said facilities secure. Immediate maintenance shall be affected upon the receipt of the written request of the Engineer. In the event of any theft, the Contractor will be responsible for the immediate replacement of all stolen items ( i.e. equipment, furniture), based on the submitted police report, at his own expense.
19. The Contractor shall make all necessary arrangements with the appropriate authorities for the payment of all charges and fees in connection with the electricity, gas and water bills throughout the Contract duration.

### Laboratory Equipment

The Contractor shall furnish brand new and maintain the laboratory equipment, apparatus and supplies necessary to permit the execution of all standard tests required at the time it is required. Replacements shall be affected to defective equipment deemed unfit to continue operation throughout the project duration or for any items broken but are necessary for the continuation of testing

The equipment apparatus and supply of materials for the laboratory shall permit the execution of the following AASHTO, ASTM and BS standard tests as listed below. Manufacturer's Specifications and Certificate of Test Results will be accepted for tests marked with an (\*) below.

The list of equipment required is included in Annex 'A' to the specifications.

#### > Soils

Particle Size Analysis of Soils	AASHTO	T88
Determining the Liquid Limit	AASHTO	T89
Soils Determining the Plastic Limit and	AASHTO	T90
Plasticity Index of Soils		
Specific Gravity of Soils	AASHTO	T100
Cements Contents of Soil — Cement	AASHTO	T144*
Mixture Plastic Fines in Graded	AASHTO	T176
Aggregates and Solisby Use of the Sand	AASHTO	T180
Equivalent Test		
Moisture Density Relations of Soils Using		
a 10-pound Rammer and an 18-inch Drop		
Density of Soil In-Place by the Sand-Cone Method	AASHTO	T191
The California Bearing Ratio	AASHTO	T193



Unconfined Comprehensive Strength of Cohesive	AASHTO	T208
Soil Density of Soil and Soil-Aggregate in Place by	AASHTO	T238
Nuclear Methods (Shallow Depth)		
Relative Density of Cohesion-less Soils ASTM D2049	AASHTO	T2
	AASHTO	T11
<b>&gt; Aggregates</b>		
Sampling Stone, Gravel, Sand		
and Stone Block for Use as Highway		
Materials Amount of Material Finer		
than 0.075mm		
Sieve In Aggregate		
Unit Weight of Aggregate	AASHTO	T19
Organic Impurities in Sands for Concrete	AASHTO	T21
Sieve Analysis of Fine and Coarse Aggregates	AASHTO	T27
Sieve Analysis of Mineral Filler	AASHTO	T37
Specific Gravity and Absorption of Fine Aggregates	AASHTO	T84
Specific Gravity and Absorption of Coarse Aggregates	AASHTO	T85
<b>Resistance to Abrasion of Coarse Aggregate by Use</b>		
of the Los Angeles Machine	AASHTO	T96
Soundness of Aggregates by Use of Sodium Sulphate or		
Magnesium Sulphate	AASHTO	T104
Friable Particles in Aggregates	AASHTO	T112
Elongation and Flakiness	BS	812
Lightweight Pieces in Aggregates	AASHTO	T113
<b>Bituminous Materials</b>		
Mechanical Analysis of Extracted Aggregate	AASHTO	T30
Sampling Bituminous Materials	AASHTO	T40
*Solubility of Bituminous Materials in Organic		
Solvents	AASHTO	T44
*Flash and Fire Points by Cleveland Open Cup	AASHTO	T48
*Penetration of Bituminous Materials	AASHTO	T49
*Ductility of Bituminous Materials	AASHTO	T51
*Softening Point of Asphalt (Bitumen) and Tar		
in Ethylene Glycol (Ring and Ball)	AASHTO	T53
*Reduce of Specified Penetration	AASHTO	T56
*Say bolt Viscosity	AASHTO	T72
*Distillation of Cut-Back Asphalt Products	AASHTO	T78
*Flash Point with Tag Open Cup	AASHTO	T79
Quantitative Extraction of Bitumen from Bituminous		
Paving Mixtures	AASHTO	T164
Effect of Water on Cohesion of Compacted		
Bituminous Mixtures	AASHTO	T166
Sampling Bituminous Paving Mixtures	AASHTO	T168
Bituminous Mixing Plant Inspection	AASHTO	T172
*Effect of Heat and Air on Asphaltic Materials		
(Thin-Film Oven Test)	AASHTO	T179

Coating and Stripping of Bitumen-Aggregate Mixtures	AASHTO	T182
*Kinematic Viscosity of Asphalts	AASHTO	T201
Specific Gravity of Road Oils, Road Tars, Asphalt Cements, and Soft Tar Pitches	AASHTO	T228
Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus	AASHTO	T245
Determining Degree of pavement compaction of Bituminous Aggregate Mixtures	AASHTO	T230
Comprehensive Strength of Bituminous Mixtures	AASHTO	T167

### Concrete

Comprehensive Strength of Moulded Concrete Cylinder	AASHTO	T22
Making and Curing Concrete Comprehensive and Flexural Strength Test Specimens in the Field	AASHTO	T23
Quality of Water to be Used in Concrete	AASHTO	T26
Comprehensive Strength of Hydraulic Cement	AASHTO	T106
Slump of Portland Cement Concrete	AASHTO	T119
Weight per Cubic Metre, Yield and Air Content (Gravimetric) of Concrete	AASHTO	T121
Making and Curing Concrete Test Specimens in the Laboratory	AASHTO	T126
Sampling Hydraulic Cement	AASHTO	T127
Moisture Density Relations of Soil-Cement Mixtures	AASHTO	T134
Wetting-and-Drying Test of Compacted Soil-Cement Mixtures	AASHTO	T135
Sampling Fresh Concrete	AASHTO	T141
Capping Cylindrical Concrete Specimens	AASHTO	T231
Alkali Aggregates Reaction	BS	882
Obtaining and Testing Drilled Cores and Sawed Beams of Concrete	AASHTO	T24

### Straight Edges

The Contractor shall at his own expense provide sufficient number of metal straight-edges and rigid templates to be used by the Contractor and the Engineer to control and check the finished surfaces of the Works. The straight edges shall be 4m high in length.

They shall be maintained in good condition at all times, they will be checked from time to time by the Engineer and, if necessary, shall be repaired, corrected or replaced by the Contractor as directed by the Engineer.

### Submissions

The contractor shall, within 10 days from receipt of signature of Contract or receipt of letter to commence whichever date is earlier, submit to the Engineer for his approval the following documentation:

- a. Detailed shop drawings of the proposed laboratory and layout inclusive of partitioning, electrical and mechanical features (i.e. telephone, electricity, water distribution and sewage), related common areas, etc.

- b. In case the Laboratory are ready made building such as prefabricated offices, the documentation required for the approval of supplier and respective fittings
- c. In case the Laboratory shall be constructed on site, the documentation required for the approval of the Sub-Contractor and respective fittings.
- d. In case of furniture, fittings and equipment, a complete list of the proposed items inclusive, of manufacturer's name, catalogues and other requirements
- e. In case of equipment, 3 quotations from suppliers with all related company information, similar works supplied to other Employers and other documentation necessary
- f. Straight-edges and rigid templates shall be submitted to the Engineer for approval in advance of their use.

In all cases, no works shall commence or delivery made of offices prior to obtaining the approval of the Engineer on the complete submission of the Contractor.

Should the Contractor plan to relocate an office facility to a different location, he shall submit his schedule for doing so, justifying such schedule by reference to the Programme of Works, within thirty (30) days of the planned relocation.

The laboratory shall be used exclusively for control testing and approval of the Works. The Contractor shall not use the Central laboratory for the tests belonging to the Contractor's laboratory mentioned in Sub-Clause 1302(a). The facilities and equipment of the Central Laboratory shall be available to the Engineer's staff at all times for testing on behalf of the Engineer as the Engineer may deem necessary.

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 in good condition as determined by the Engineer. Equipment in bad condition transferred from other sites or hired locally will be rejected by the Engineer.

The Contractor shall supply all stationery necessary for the laboratory testing and reporting requirements. 4 function with memory electronic calculator Rain gauges 3 Plus printed test forms, samples bags, hessian, plastic or 4 ply paper for large disturbed samples, towels soap etc., as required.

Upon completion of the Works, the equipment and testing facilities for the Laboratory shall become the property of the Employer.

Protective Clothing for the Supervisor's Staff . The Contractor shall also provide the following;

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

**PS 1403 HOUSING**

Add the following after the title:

"The Contractor shall provide the Engineer's houses in conventional construction (bricks). The houses layouts are shown on the drawings and required Nos are specified in the BoQ.

(a) The Houses (House types I II and II)

Delete the first sentence of paragraph 3 and replace with the following:

"The Contractor shall provide the types of houses as shown on the drawings. This sub-clause refers to only House types I and II and numbers as instructed by the Engineer.

Should the Employer request for building a "brick" permanent fabricated houses the Contractor shall confirm to comply with this request and shall inform the Employer before any operation on site, on the estimated construction's time. It shall be only after the Employer's confirmation and the Engineer's instruction that Contractor shall start the houses' construction.

While waiting for supply the prefabricated or brick fabricated houses the Contractor shall at his own care and costs provide for the Engineer and his personnel adequate accommodations in a full furnished rented houses or in hotel accommodations at Engineer's satisfaction during all the period necessary to supply the completed and furnished houses.

The same quality level for furniture, appliances and household goods for each room as reported on the here below lists shall be provided also in case of the brick fabricated houses.

**Furniture for the Engineer's Staff Housing**

The furniture and fittings (per house) to be provided as detailed below shall be either new or in good condition and of a quality acceptable to the Engineer:

Sr. No	Description	Qty. Per house
<b>Dining Room:</b>		
	Air condition	As required
	Cupboard (floor and wall)	1
	Rectangular dining table (4-seater)	1
	Dining chairs	4
	Sideboards	1
<b>Living Room:</b>		
	TV set with satellite contract (DSTV)	1
	Air condition	As required
	Bookcase (3 shelves x 1830mm)	1
	Four chair sofas set	1
	Arm chairs	2
	Coffee table	2
	Wall unit	1
	Lounge chairs	2

Sr. No	Description	Qty. Per house
	<b>Kitchen:</b>	
	Hot water heater	1
	Kitchen table	1
	Kitchen cupboard (shelves minimum 10 m2)	1
	Four plate stove with oven and warmer drawer	1
	Refrigerator (350 litter minimum)	1
	Freezer (250 litter minimum)	1
	Microwave	1
	Washing Machine	1
	Complete kitchen utensils including pots, pans etc	1
	Electric Kettle	1
	Electric Toaster & Snackwicher	1 each
	Pedal bins	1
	Steam Irons	1
	Ironing boards	1
	Dishcloths and dry cloths	6
	Cutlery (set of 6) consisting of knife/fork/desert spoon/soup spoon/teaspoon	2
	Crockery (set of 6) consisting of dinner plate /soup plate/pudding bowl/side plate	2
	Glasses(Whiskey Tall)	18
	Coffee mugs	6
	Bread knife	1
	Teapot	1
	Carving knife	1
	Steak knives	6
	Cork screw	1
	Potato peeler	1
	Salad bowl Sugar Bowel	2 each
	Casserole dishes set consisting small/ medium/ large	2 set
	Frying pan , small	1
	Frying pan, large	1
	Pots set consisting small/medium/large	1 set
	Utensils on stand consisting soup ladle/ chip strainer/ potato masher/large spoon/egg lifter	1 set
	Stands for hot sauce pans	2
	Serving spoons	4
	Baking tin for bread	2
	Ice bucket	1
	Water jug (large)	2
	Serving platter (large)	4
	Wooden spoon	3
	Cleaning equipment including broom/mop/bucket	As required
	Vegetable rack	1

Sr. No	Description	Qty. Per house
	Assorted plastic containers (various sizes )	2 set of 6
	Pressure Cooker (5 liter capacity)	1
	Pressure Cooker (3 liter capacity)	1
	Mixer Grinder(750 Watts 3 Jars Mixer Grinder)	1
	Drip-dry rack for dishes etc. .	1
	Grater	1
<b>Bathroom:</b>		
	Hot water shower with a curtain	1
	Laundry Basket	1
	Dustbin with lid	1
	Bathroom cabinet with shelves & mirror	1
	Toilet set with mat	1
	Bath mat	1
	Medium length mirror	1
	Clothes horse	1
	Clothes peg bag with clothes pegs	1
	Towel rails	2
<b>Master Bedroom:</b>		
	Air condition	1
	Desk and desk lamp for reading	1
	Queen size bed with corresponding inner-spring mattress	1
	Headboard with 2 bedside tables & Bedside lamps	1
	Dressing table with horizontal movable mirror	1
	Wardrobes with coat hangers	4
	Chest of drawers	2
	Waste paper basket	1
	Pillows Set linen (4 fitted bed sheets, 2 blankets & 4 pillow cases) for queen size bed	1
	Mosquito net for queen size bed	1
	Bedside rugs	2
<b>Second Bedroom:</b>		
	Air condition	1
	Desk and desk lamp for reading	1
	Single bed with corresponding inner-spring mattress	1
	Headboard with 2 bedside tables & Bedside lamps	1
	Dressing table with horizontal movable mirror	1
	Wardrobes with coat hangers	1
	Chest of drawers and Chair	1
	Waste paper basket	1
	Pillows Set linen (4 fitted bed sheets, 2 blankets & 4 pillow cases) for queen size bed	1
	Mosquito net for single bed	1
	Bedside rugs	2
<b>Third Bedroom:</b>		
	Air condition	1

Sr. No	Description	Qty. Per house
	Desk and desk lamp for reading	1
	Single bed with corresponding inner-spring mattress	1
	Headboard with 2 bedside tables & Bedside lamps	1
	Dressing table with horizontal movable mirror	1
	Wardrobes with coat hangers	1
	Chest of drawers and Chair	1
	Waste paper basket	1
	Pillows Set linen (4 fitted bed sheets, 2 blankets & 4 pillow cases) for queen size bed	1
	Mosquito net for single bed	1
	Bedside rugs	2
<b>General:</b>		
	Curtains for all windows	1
	BFC type fire extinguishers with fire axes	1
	Large garbage bin	1
	Rotary Clothes Line	1
	Mats for front and back doors	2
	Bath towels	6
	Hand towels	6
	50-meter hosepipe	1
	Wheelbarrow	1
	Set of home landscaping tools	1 set
	Carports	2

All accommodation and outbuildings shall be provided with approved burglar proofing. External doors of houses shall be of solid construction at least 32 mm thick fitted with deadlocks and two good quality internal bolts of approximately 12 mm diameter.

Windows and doors shall be fitted with steel or hard alloy burglar grilles, well anchored to the structure. Burglar grilles in bedrooms shall be fitted with a fire escape panel with a suitable lock if no other satisfactory alternative fire escape route is available. Two keys to the fire escape lock shall be securely located within 3 m of the lock inside the room.

The Contractor shall comply with these clauses before ordering any of the required furnishings or equipment. The Contractor shall also be responsible for the maintenance and replacement of any of the above listed items. In case of unsatisfactory maintenance and replacement, the Engineer has the right to deduct certain percentages of payment from the relevant pay items of Section 1400."

All windows shall have mosquito/fly screens fitted in such a way that the windows can be opened and closed from the inside.

All outer doors shall have mosquito/fly screen doors with automatic closing hinges.

**NOTE:**

Asbestos material shall not be used as those for housing, in particular for roof.

Ownership of all the above furniture, appliances and household goods shall revert to the



Employer on the completion of the Project.

No separate payment shall be made for above provisions of this clause. All costs relating to these provisions shall be included in the relevant Pay Items of Section 1400."

Add the following additional requirements after (x):

"(xi) Glass windows so that the window area of each room is at least ten percent

(10%) of the total area of the room. At least fifty percent (50%) of the area of each window shall be openable. Burglar bars are to be provided at all windows.

Pelmets with Kirsch curtain rails at all windows.

Screens of mosquito gauze to all external doors and all openable windows, installed in such a manner as to totally prevent the ingress of flying and crawling insects.

(xii) Gutters and downpipes.

(xiii) A one metre (1.0m) wide concrete slab around the house, abutting the outside walls.

(xiv) Diamond mesh fencing, 1.2m high, around the house and outbuilding, in which one gate for pedestrians and one gate for vehicles shall be provided.

(xv) A separate deep freezer with a capacity of at least 0.50 m<sup>3</sup>.

(xvi) Air-conditioners complying with the requirements of Clause 1402(f), in all bed rooms and living rooms.

(xvii) A medicine cabinet, towel rail 1.5m long and a mirror at least 0.5m x 0.5m, all fixed to the bathroom wall, the latter over the wash-hand basin.

(xviii) Shower curtain rail complete with curtain.

(xix) Waterproof canopy at least 1.5 m x 1.5 m in plan area at each external door.

(xx) Electric light and one 220V power point in the enclosed stoop.

(xxi) External electric lights at all exterior doors.

No separate payment shall be made for the supply of the above items and the Tenderer's rate for payment under Item 14.06 shall include full compensation for these."

(b) Outbuildings

Delete the first paragraph and replace with the following:

"Following two car parking facilities shall be provided with each house: One carport as specified in Clause 1402 (d).

No separate payment shall be made for the provision of the carport and garage. The Contractor's rate for payment under Section 1400 shall include full payment for the supply of these items."

**(c) Rented accommodation**



(i) Instead of the houses described above, the Contractor may provide suitable rented houses, approved by the Engineer, which will provide at least the same standard of comfort as that of the prefabricated houses described above, in the nearest town or elsewhere. The terms of any lease for such accommodation shall be subject to the Engineer's approval and shall contain provision, where the Owner agrees, for an extension of the lease on pre-agreed terms during any extended time for completion of the Contract, as well as provision for the lease to be taken over by the Engineer or another Contractor in the event of default by or insolvency of the Contractor. Notwithstanding the Engineer's approval of the conditions of the lease, the Contractor shall be solely responsible for providing the accommodation for the full period required and for suitable substitute accommodation should the alternative accommodation be no longer available. The Contractor shall also be responsible for the cost of additional travelling expenses, if any, arising from the use of alternative or substitute permanent housing. Such costs may be subtracted from any moneys owing to the Contractor for providing housing.

(ii) The Engineer may also order the Contractor to pay for any hotel or other accommodation or leased houses required and available. This accommodation may be in addition to or instead of the accommodation specified. The Contractor shall enter into the necessary contracts for the lease of such accommodation as may be required and shall not unreasonably object to the terms and conditions of such leases to be negotiated by the Engineer. The cost of drawing up and entering into such leases shall be refundable if paid by the Contractor. Where such accommodation is contemplated in advance, allowance shall be made for the cost thereof by inclusion of a suitable provisional sum. The provision of such accommodation shall be classed as "extra work" and payment therefor shall be made as specified in the relevant clause of the General Conditions of Contract.

**PS1404 SERVICES****(d) Cooking facilities**

**Delete this sub clause completely.**

**Add the following sub clauses after (c) of Clause 1404:**

**“(d) Engineer's support staff**

- I. The Contractor shall provide the Engineer with approved support staff in the categories as specified below. The Contractor shall be fully responsible for the procurement, employment, administration, payment and termination of employment of all the personnel provided.
- II. If a staff member is found to be unsatisfactory by the Engineer, they shall be replaced by the Contractor within 24 hours after having being notified by the Engineer.
- III. The number of staff specified per category, as indicated below, is to be used for bid purposes only. The Engineer shall furnish the Contractor with full details, in writing, regarding the number of staff required per category at the time when the Contract is awarded. The Engineer may also request further adjustments to the number of staff per category, as and when required until the Contract work is completed.
- IV. The Contractor shall be responsible for the provision of all accommodation, cooking facilities and ablution units required by the staff to be provided by the Contractor for performing work in the Engineer's offices, houses and laboratories, as specified hereinafter.
- V. Payment for provision of such accommodation, cooking facilities and ablution units, and all maintenance and services required for these houses, offices and facilities shall be included in the Contractor's general obligations, Pay Item 13.01.

The number (estimate) of staff to be supplied by the Contractor for the Engineer is as follows:

<b>Sr. No</b>	<b>Description</b>	<b>For RE Team per Lot</b>
1	House maid and cooking personnel	As required
2	Office cleaners	As required
3	Outside cleaners/gardeners	As required
4	Watch man	As required

**Requirements of staff to be provided by the Contractor for the Engineer:****1. Drivers for the Engineer's vehicles:**

The drivers shall have a valid driver's license issued in Malawi and at least 25 years of age.

**2. Cleaner:**

The Contractor shall employ a full time cleaner to look after the cleaning of all The Engineer's offices including the bathrooms."

**Add the following sub-clauses in Clause 1404:****(e) Sanitary Arrangements**

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. Wastewater 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 tanks or a water-borne sewage scheme is unfeasible, the Contractor shall construct conservancy tanks and make arrangements for the removal and disposal of sewage.

**(f) Security at Engineer's Offices and Site Housing**

The Contractor shall provide adequate security guards from a reputable security company on a 24 h/day, 7-days/week basis to secure the Engineer's staff, offices, houses, vehicles and properties against criminal activities.

The security guards must be provided with a two way radio and be in constant contact with the control room of the security company and an armed response unit. The security guards must be armed. Payment for the above shall be included in item 13.01

**(g) First Aid**

The Contractor shall provide a snakebite outfit at the site offices . Suitable storage facilities shall be provided for the serum. The serum shall be replaced before its expiry date.

No separate payment shall be made for this subclause (g).

**(h) Semi-skilled labourers for the Engineer**

The Contractor shall employ as many semi-skilled labourers as the Engineer may from time to time direct, for the exclusive use of the Engineer. Generally, these personnel will be utilized in the Engineer's laboratory, as survey assistants 'Lab Assistants. The Contractor shall provide accommodation and services for a maximum of 8 such laborers as specified in Clauses 1403(d) and 1404 of the Standard Specification.

A Provisional Sum has been allowed in the Schedule of Quantities for the wages paid to the above labourers.

**PS1405 PROVISION OF VEHICLES**

Add the following after the second para graph:

**The number and types of new vehicles to be provided are as follows:**

Sr. No	Description	For RE Team
<b>1</b>	Double cab, 4wheel drive, diesel (min.2800 cc), with air condition, seat capacity of 5 persons, seatbelts, power steering, bull bar and a lockable back canopy	<b>4</b>
<b>2</b>	Single cab, 4-wheel drive, diesel (min. 2800 cc), with air condition, seat capacity of 2 persons, seatbelts, power steering, bull bar and a lockable back canopy	<b>6</b>

All the vehicles shall be registered and insured in Malawi. Foreign registration is not accepted. On completion of the Works, all the vehicles shall be handed over to the Employer (RA) in good conditions with necessary registration."

Replace the last two sentences of the third paragraph with the following:

"Each vehicle shall be fitted with a fire-extinguisher; first-aid kit; tow-hook and rope; toolkit; two spare wheels secured to suitable lockable brackets; wheel wrench; jack and handle; seat belts; two suitable sized D-shackles to secure the seat belts to the vehicle; high-lift jack secured with lockable brackets; long range fuel tanks with total capacity of at least 90 litre; approved full-bull bar including protection for the fenders and lights and secured to the chassis; tubular step bumper/tow bar including tow bar ball and socket; loose rubber mats (six for each station wagon and four for each double cab); approved lockable canopy (and roll cage) of sturdy construction that can withstand off-road driving conditions; differential lock on rear wheels with 245/75 R15 tyres; additional driving lights; front and rear mud flaps; roll bar; power steering; air conditioner; remote control central locking; air bags; anti-lock brake system (ABS); cloth seats and a hose for steel jerry cans."

#### **Add to and amend Clause 1405 as follows**

The vehicles shall remain the responsibility of the Contractor who will be responsible for its maintenance including the provision of fuel and oil as necessary. The vehicles shall fully be fully licensed and insured for 24 hrs usage whether on official business or not (comprehensive insurance). The vehicles shall also carry all the necessary stator permits. The person using the vehicles shall be indemnified against all claims arising from any third party, fire and theft claims whether statutory or otherwise. The vehicles shall not carry any advertisement or logo.

An alternative equivalent form of transport shall be provided during any period when the above- mentioned vehicles are out of commission for any reason.

Upon issue of the Certificate of Completion or when agreement on the final quantities has been reached, whichever is the later, the vehicles shall revert to the Roads Authority.

#### **PS1407 MEASUREMENT AND PAYMENT**

**Change pay item 14.01, 14.02 and 14.03 as follows:**

#### **PS14.01 Office and Laboratory Accommodation**

Item	Unit
(a) Office Building as specified ..... Sum	Lump
(b) Laboratory Building as specified ..... sum	Lump

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

#### **PS14.02 Office and Laboratory Furniture**

(a) Office furniture as specified in the Particular Specifications.....	Lump sum
(b) Laboratory furniture as specified in the Particular Specifications. ....	Lump sum

**Add:** The tendered lump sums shall include all the furniture for offices and laboratory in accordance with the details and as listed in Particular Specifications.

#### **PS14.03 Office and Laboratory Fittings, Installations and Equipment**

(a) Office fittings, installations and equipment (except computer)	Lump . Sum
(b) Laboratory fittings, installations and equipment's as specified in the particular conditions...	Lump sum

The tendered lump sums shall include all the fitting, Installations and Equipment for offices and laboratory in accordance with the details and as listed in Particular Specifications except computers, scanners and printers for offices for which an extra pay item is applicable.

**PS14.04 Car Ports**

Car ports as specified, at offices and laboratory buildings..... No

The unit of measurement shall be the "Number" of carports provided.

**PS14.07 Rented, hotel and other accommodation**

(a) Provisional sum for providing rented housing, hotel or other accommodation as described in sub clause 14.03 (c) (ii) P.S

(b) Provision sum for providing rented offices temporarily PS

(c) Handling costs and profit in respect of sub-items 14.07(a) & 14.07(b) (stated as 10% and extend as an amount) .....

**Amend Pay Item 14.08 as follows:****PS14.08 Services**

(a) Services at rented offices and laboratories.  
Month

I. Fixed costs ..... L.S.

II. Running costs ..... Month

(b) Services for prefabricated houses(11 Nos)

I. Fixed costs ..... L.S.

II. Running costs ..... Month

(c) Services for rented houses. House-Month

The tendered amounts shall include all specified services rendered to offices and laboratory and to each rented house for Engineer's personnel.

**Create the following new pay items****PS14.13 The Engineer's prefabricated houses**

I. Type I.....No

II. Type II.....No

III. Type III.....No

Combined measurements shall be "Number" based on the specifications and quantities provided in these particular specifications. Cost shall include maintenance and replacement as required.

**PS14.15 Survey equipment for use by the Engineer .....Lump sum**

Combined measurements shall be "lump sum" based on the specifications and quantities

provided in these particular specifications. Cost shall include maintenance and replacement as required.

**PS14.16 Vehicles for Engineers Staff**

(a) Supply of vehicles:

(i) Supply of double cabin 4x4 vehicles High Rider.....Number(No)

(ii) Supply of Single cabin 4x4 vehicles High Rider.....Number(No)

(b) Operation and maintenance of Engineer's Vehicle

(i) Double cabin 4x4 vehicles High Rider as Specified.....Vehicle x  
Month

(ii) Single cabin 4x4 vehicles High Rider as Specified .....Vehicle x  
Month

The tendered rates for sub item (a) shall include full compensation for the supply of the vehicles as specified in PS14.16 including all costs, taxes, import taxes, duties, licensing fees. Commissions, transport, and all other costs necessary to obtain and deliver the vehicles on site.

The tendered rate for sub item (b) shall include full compensation for the operation and maintenance of the vehicles in good roadworthy conditions. The rates shall include for the costs of the drivers, fuels and oils, repairs, replacement of parts due to normal wear and tear, regular maintenance service and all insurance, registration, licensing and other hidden and overhead costs. **subject to a usage of up to 5000km/month/vehicle.**

On completion of the construction, the ownership of the vehicles will revert to the Employer.

**PS14.19 Security at Engineer's Offices, Laboratory, and Houses .....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`

**PS14.20 Provision of semi-skilled labour for use by the Engineer**

(a) Provision of Labourers. ....P.S.

(b) Handling cost and profit in respect of PS 14.20 (a) (State % and extend as an amount)  
.....%

Payment under Item PS14.20(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.

**PS14.21 Supply of consumables items to Engineer's Office ,Laboratory and House 's**

- (c) Supply of consumables items to Engineer's Office ,Laboratory and Engineer's representative house as ordered by the Engineer.  
.....Month.
- (d) Handling cost and profit in respect of PS 14.21 (a)  
(State % and extend as an amount) ..... %

**PS14.22 Supply of office consumables and stationery**

- (a) Supply of office stationery as ordered by Engineer.....P.S
- (b) Handling costs and profit in respect of Sub item PS14.22 (a) above.....%



**SECTION 1500: ACCOMMODATION OF TRAFFIC****PS1501 SCOPE**

Add the following paragraphs at the end of Clause 1501 of the Standard Specifications:

The Contractor shall also be responsible for construction and maintenance of bypass over the river crossing.

The Contractor shall submit details of the proposed alignment with his method statement for approval. The plan shall detail the Contractor's proposed arrangement for accommodating public traffic through river crossing. It shall include but not limited to accommodating traffic on existing roads and on temporary diversions. Temporary diversions shall be constructed using selected gravel layers, watered to suppress dust. The Contractor shall be responsible for the planning, construction, maintenance and repairs of all routes used to accommodate traffic for the entire construction period.

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.

The Contractor will limit the length of any traffic diversion to 5 km and limit the number of diversions operational at any one time to three. The adjacent section shall be apart at least 5 km.

The upgrading of the existing road in half-widths shall be acceptable only if no other approved means of accommodating the traffic can be provided. The construction of roads in half-widths shall be kept to a minimum, and shall only be done upon the written instruction of the Engineer.

If accommodation of traffic by half width construction is approved anywhere, the Contractor must bear in mind the following restrictions:

- i) No length of half width accommodation of traffic shall be allowed to exceed 5 km in one working area.
- ii) The existing road will be widened to accommodate two-way traffic ( $W = \min. 5 \text{ m}$ ). The widened roads or diversion roads shall have sufficient strength to support heavy construction equipment from this and adjoining Lots.
- iii) "Stop and Go" procedures with sign age or two-ways in width of 5 m shall be provided during daylight hours as shown on the drawings. The operators of the Stop and Go sign boards shall have suitable, approved, radio communications.
- iv) When it is required to have traffic on a half width of road overnight, the Contractor shall provide traffic lights (or robots). Each traffic light shall be well sign posted and be "manned" at all hours. Suitable and approved illumination shall be provided all along the half width section. Suitable security shall be provided for the stopped vehicles at each end, if deemed necessary by the Engineer.

v) Material dumped and spread on the shoulders adjacent to the half width being trafficked, shall not be allowed to exceed a height of 0.5 m higher than the road being trafficked.

vi) The Contractor shall water not only the diversions but also the existing roads where his construction plants (e.g. dump trucks) passing, to keep down the dust.

## **PS 1502 GENERAL REQUIREMENTS**

### **PS 1502(a) Handing Over the Site**

Replace Sub Clause 1502(a) of the Standard Specification with the following:

The entire site will be handed over to the Contractor at the commencement of the contract.

### **PS 1502(b) Providing Diversions**

Add the following:

The Contractor shall be responsible for the maintenance of the existing roads for the duration of the Contract. Maintenance will include re-gravelling, pothole patching, cleaning of drains and grass cutting.

The Contractor shall also be responsible for construction and maintenance of new bypasses over sections of roads for which he has occupation. The diversions shall be constructed using selected gravel layers and regularly watered to suppress dust any negligence on the Contractor's part to do so will be penalized.

The upgrading of the existing road in half-widths shall be acceptable only if no other approved means of accommodating the traffic can be provided. The construction of roads in half-widths shall be kept to a minimum, and shall only be done upon the written instruction of the Engineer.

## **PS 1503 TEMPORARY TRAFFIC-CONTROL FACILITIES**

Add the following after the second paragraph of Clause 1503 of the Standard Specification:

No work shall proceed in any section where accommodation of traffic is required until such time as the relevant requirements with regard to sign posting are met.

### **PS 1503(a) Traffic-control devices**

Add the following to Sub Clause 1503 (a) of the Standard Specification:

Sufficient flagmen suitably trained and equipped shall be provided at all designated access points on public roads 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.

### **PS 1503(b) ROAD SIGNS AND BARRICADES**

***Add the following to Sub Clause 1503 (b):***

Retro-reflective material for temporary road signs shall comply with the requirements of SABS 1519. The retro-reflective coefficients determined according to the methods of SABS 1519, shall be at least 60% of the values given in Table 1 of SABS 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.

**PS 1503(c) CHANNELIZATION, DEVICES AND BARRICADES,**

Add the following to Sub Clause 1503 (c) of the Standard Specification:

Plastic traffic cones and delineators shall be as specified in South African Road Traffic Safety Manual (SARTSM).

Delineators shall comply with the following requirements:

- (i) A minimum contrast ratio of 4 shall exist between the yellow 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/hr. without overturning. The base shall be stabilized 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.

The Contractor shall hold available on site the temporary traffic control facilities required for proper control of traffic as shall have been approved by the Engineer. Such approval shall not relieve the Contractor of his responsibility of ensuring safe and adequately signed site.

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.

Failure to replace and install any missing sign or to remove unnecessary signage within three hours of orders having been issued by the Engineer shall be sufficient cause for the Engineer to impose a penalty of MWK 50,000 (Malawi Kwacha Fifty Thousand) per hour, from the time when each such sign was to be installed or removed to the time such an installation is approved by the Engineer.

**PS 1503(e) Warning Devices**

Add the following to the sub-clause (e):

The Contractor shall provide the Engineer with rotating lights having magnetic bases, flexible cable and a connection suitable for insertion into a standard 12 volt cigarette lighter sockets for all of his vehicles. The cost of providing warning devices shall be deemed to be included in the rate tendered for item 15.01.

Flagmen will be on duty during periods that construction traffic transporting road-building materials crosses any routes used by other traffic. Flagmen shall be on duty at all these points of crossing. Flagmen shall also be on duty at points where normal routes are diverted and in the opinion of the Engineer, the situation requires the presence of flagmen.

*Add the following sub-clauses after Sub Clause 1503 (f) of the Standard Specifications:*

**PS 1503(g) Workers 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). Overall shall be either orange or red-orange or yellow in colour with retro-reflective strips. Rain coats 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.

**(h) Approval of Deviations**

The Contractor shall be required to prepare explanatory deviation plans, These plans shall be made available to RA, for publication, at least ten working days before any traffic is deviated.

**(i) Traffic Management Plan**

Prior to commencing construction, a traffic management plan shall be developed by the Contractor and submitted to the Engineer for approval. The traffic management plan shall pay due regard to peak flows of general traffic as well as timing and frequency of transportation and vehicle movements to and from Site. Such plan shall as a minimum take cognizance of the following:

- Provide improved refuges and arrangements for pedestrians, including appropriately designed crossings.
- Provide safe visible area for road-side stalls, parking and pick-up areas for semi-collective transport services.
- Limit speed to a maximum of 60 km/h within all working areas.
- Provide alternative safe areas for the roadside vendors so as to avoid dangers of their staying on curves or other place of low visibility by the vehicular road users.
- Schedule work activities to facilitate the flow of peak hours traffic and to plan and demarcate alternative routes for such traffic

In developing this traffic management plan, the Contractor shall liaise with the police and the competent national and local authorities to obtain information and data.

The Engineer will seek the consent of the Employer and other Authorities prior to giving his approval and the Contractor shall not commence any operations that might interfere with the free movement of traffic until such approval is granted.

**(j) Site Safety Officer**

A Site Safety Officer shall be part of the Contractor's Key Personnel with specific responsibilities to ensure that

- The requirements for temporary accommodation of traffic are complied with in accordance with the specifications.
- Construction safety regulations are complied with.
- Construction equipment and machinery are roadworthy, and operators comply with safety requirements.

The Contractor shall provide the Site Safety Officer with the necessary resources to enable him to carry out his duties efficiently. The Site Safety Officer shall liaise directly with the Engineer regarding matters related to the control of traffic.

The site safety officer shall inter alia, control and co-ordinate the movement of construction vehicles, be responsible for training the Contractor's staff in terms of road safety, ensure that reflective clothing is worn by all employees working on or near public roads, be responsible for implementing actions requested by the traffic authorities with regard to the work to be carried out, be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic, ensure that all obstructions related to the Contractor's activities are removed before nightfall every day, and ensure that the roads are safe for night traffic. He shall also be available after hours if required to rectify problems or deal with emergencies.

The Site Safety Officer shall ensure that the Contractor's staff are fully trained regarding traffic mobility and safety issues, and informed of the requirements of this clause before any road closure is made.

Further responsibilities of the Site Safety Officer shall include:

- Training of employees in road safety
- Training of employees in safety at their place of work

The Site Safety Officer must be fluent in the following languages:

- Chichewa
- English
- The predominant local language in the project area.

A 24-hour emergency number must be made available and manned for the duration of the contract. The numbers must be posted at regular intervals along the route.

No payment will be made for the site safety officer. The rates tendered for Sections 1300 and 1500 shall be deemed to include full compensation for all costs pertaining to the site safety officer and his duties.

**(k) Penalties for Non Compliance with Traffic Accommodation Specifications**

The Contractor shall comply strictly with all accommodation of traffic specifications and instructions from the Engineer.

In the case of matters relating to safety, the Contractor shall immediately rectify any problems identified by the Engineer. The decision as to whether a matter affects the safe passage of traffic shall vest strictly and solely with the Engineer.

In the case of matters relating to other than safety the Contractor shall rectify any problems identified by the Engineer within a maximum of 48 hours of receiving the instruction or such other time period as the Engineer reasonably will require.

Should the Contractor not comply with the instructions of the Engineer the following penalties shall be imposed.

(i) For safety matters:

For first hour or part thereof, after the first hour MK 3500/hour

For every hour or part thereof after the second hour Mk 3500/hour

(ii) For non-safety matters:

For first day or part thereof after first 48 hours MK 20,500/day

For every day or part thereof after the third day MK 20,000 /day

The imposition of the above penalties will not preclude the Engineer from stopping the works until the matter is rectified.

The Engineer will exercise this right if the Contractor disregards his instructions or if he is of the opinion that the situation warrants this measure for safety reasons.

Should the Engineer stop the works for any reason related to non compliance with the specifications on accommodation of traffic, there will be no compensation for any costs incurred by the Contractor as a result of such stoppage, nor will any extension of time be granted as a result."

## **PS 1517 MEASUREMENT AND PAYMENT**

Delete pay items 15.01 to 15.12 and replace with the following Pay Item:

<b>Item</b>	<b>Unit</b>
PS15.01 Accommodating traffic and maintaining the diversions.....	kilometre (km)

The unit of measurement shall be the kilometre, measured along the centreline of the road to be constructed, where public traffic has to be accommodated by means of temporary bypasses, construction in half widths or existing roads used as bypasses.

The tendered rate shall include full compensation for all general obligations, specific requirements and all incidental items necessary for the accommodation of traffic and the construction and maintenance of bypasses, including existing roads used as bypasses, during the construction period and maintenance period. It shall also include full compensation for the provision of flagmen, barricades, cones, delineators and, where necessary, communications equipment required to regulate traffic, for the provision and maintenance of

temporary drainage, arranging for the moving of services, attending to traffic problems, complying with the requirements of the Road Traffic Ordinance and other local authorities for providing temporary access to private property.

Payment shall be made into two equal instalments in respect of each section. The first instalment shall be made when suitable bypasses have been approved for use or when traffic is taken over halfwidth construction. The second instalment shall become due when that traffic can be accommodated on the new road, all bypasses have been obliterated and all general obligations of the Contractor have been complied with, all to the satisfaction of the Engineer.

Replace Entire Section 1600 of the Standard Specification with the Following

**SECTION 1600: OVERHAUL**

Overhaul of material will not apply in this contract. The free haul distances for all materials irrespective of source shall be unlimited. All overhaul pay items in the various sections shall be deemed deleted.



**SECTION 1700 CLEARING AND GRUBBING****PS1701 Scope**Add the following to Clause 1701 of the Standard Specification

This section also includes the cutting of grass and bushes along the road to improve visibility. The width of cutting shall be 3m to 10m from the edge of the road where grass starts to grow or as directed. The scope of works shall also include the treatment of anthills .

**PS1703 EXECUTION OF THE WORK****(a) Areas to Be Cleared, Grubbed and Stripped**Add the Following At the end of sub-clause 1703 (a) of the Standard Specification:

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 sub-clause 1703 (b) add the following:

Individual trees designated in writing by the Engineer shall be left standing and uninjured. A penalty between MK5,000 and MK 10,000, 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**Add the following New Pay items to clause 1704 of the Standard Specification

Item	Description	Unit
<b>PS 17.04</b>	<b>Treatment of Anthills</b>	<b>Nos.</b>

Where anthill material is encountered within the road prism, the contractor shall excavate to a depth of 0.6m below existing ground level over an area as directed by the Engineer. The excavated area shall be treated with an approved pesticide and backfilled with suitable material compacted to specifications.

The rate of payment shall be the number of anthills treated. This rate shall cover the provision of labour, tools, approved pesticides, road signs and safety devices. Excavation and backfilling shall be paid for under their appropriate pay items

✓

Item	Description	Unit
<b>PS</b>	<b>Demolition of existing structures</b>	<b>Nos.</b>
<b>17.05</b>		
a)	Masonry structures	m <sup>3</sup>
b)	Concrete structures	m <sup>3</sup>
c)	Gabions	m <sup>3</sup>
d)	Kerbs	m

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

Add the following new Section 1800 after Section 1700 of the Standard Specification:

## **SECTION PS 1800: DAYWORKS**

### **PS1801 SCOPE**

This section covers the listing of daywork 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**

<b>Item</b>	<b>Unit</b>
<b>PS18.01 Personnel during normal working hours</b>	
(a) Unskilled labour.....	hour (h)
(b) Semi-skilled labour.....	hour (h)
(c) Skilled labour.....	hour (h)
(d) Ganger.....	hour (h)
(e) Flagmen .....	hour (h)
(f) Operators .....	hour (h)
(g) Foremen .....	hour (h)
(h) Surveyor .....	hour (h)
(i) Lab technician .....	hour (h)
<b>Item</b>	<b>Unit</b>
<b>PS18.02 Personnel outside normal working hours</b>	
(a) Unskilled labour.....	hour (h)
(b) Semi-skilled labour.....	hour (h)
(c) Skilled labour.....	hour (h)
(d) Ganger.....	hour (h)
(e) Flagmen .....	hour (h)
(f) Operators .....	hour (h)
(g) Foremen .....	hour (h)
(h) Surveyor .....	hour (h)
(i) Laboratory Technician .....	hour (h)

Item	Unit
<b>PS18.03 Plant</b>	
(a) Tip Truck 6m <sup>3</sup> .....	hour (h)
(b) Tip truck 10m <sup>3</sup> .....	hour (h)
(e) Motor grader (type specified) .....	hour (h)
(f) Wheeled loader (type specified) .....	hour (h)
(e) TLB (type specified) .....	hour (h)
(f) Water bowser – self-propelled (capacity specified) .....	hour (h)
(g) Vibratory roller .....	hour (h)
(h) Pneumatic roller .....	hour (h)
(i) Grid roller with tractor (type specified) .....	hour (h)
(j) Tractor (type specified).....	hour (h)
(k) Tracked excavator (type specified).....	hour (h)
(l) Bulldozer (type specified).....	hour (h)
(m) Excavator.....	hour (h)
(n) Concrete Mixer.....	hour (h)
(o) Water Pump .....	hour (h)
(p) Light Duty Vehicle	Km
(q) Flatbed Truck	Km
(r) Generator Set	Hour(h)
(s) Compressor Set	Hour(h)
(t) Grinder	Hour(h)

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 considers 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.....	P.S.
(b) Contractor's handling costs, profit and all other charges in respect of sub item PS18.04(a).....	%

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.

**SERIES 2000: DRAINAGE****SECTION 2100: DRAINS****PS 2102 OPEN DRAINS**

Add the following at the end of clause 2102 of the Standard Specifications:

Existing open drains over which proposed road works must take place, must be backfilled using selected granular material compacted to 93% modified AASHTO density (100% for sand). The item shall include backfilling narrow drains of width not exceeding 1000mm.

**PS 2103 BANKS AND DYKES**

Add the following after the last paragraph of Clause 2103 of the Standard Specifications:

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 wheelbarrows.

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.

**PS 2107 MEASUREMENT AND PAYMENT**

Add the following pay item:

Item	Unit
PS21.20 Backfill existing drains within road prism .....	m <sup>3</sup>

The unit of measurement shall be the cubic metre of approved granular material placed and compacted to specified Density, measured in place after compaction, where instructed by the Engineer. .

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****2203 MATERIALS**

Add the following at the end of Sub- clause 2203 (a):

The Prefabricated pipes for culverts shall comply with - C30/20 Grade concrete; Cement quality standard confirming to minimum N42.5 grade.

Add the following new sub-clause 2203 (k):

**(k) 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.

**PS 2204 CONSTRUCTION METHODS**

Add the following at the beginning of Clause 2204 of the standard Specification:

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

**PS 2208 CLASSIFICATION OF EXCAVATION**

Replace Entire Clause 2208 of the Standard Specification with the following:

All excavations for prefabricated culverts shall be classified as follows for payment purposes:

**Hard Material:** Material which cannot be removed except by drilling and blasting, or with the use of pneumatic tools or mechanical breakers.

**Soft Material:** All material not classified as hard material shall be classified as soft material.

Notwithstanding the above classification, all material excavated from previously constructed fills, subgrades, and natural granular bases shall be classified as soft material.

**PS 2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS**

Item (a)(i) and (a)(ii), the minimum bedding thickness shall be 100mm.

In item (b) (ii), substitute "75mm" with "**100mm**"

In item (c), substitute "75mm" with "**100mm**"

**PS 2211 BACKFILLING OF PREFABRICATED CULVERTS**

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

Unless shown otherwise on the drawings, all bedding and backfill to storm water pipes placed off the road shall be compacted to 93% MOD AASHTO density. Materials shall be G7 quality.

The bedding compaction for all pipes crossing the road shall be 98% MOD AASHTO density and the backfill shall be compacted to 95% MOD AASHTO density. Materials shall be subbase quality except at the level of layer works where they shall be of similar quality and

compacted to density specified for respective layer but in any event not less than subbase quality.

## **PS 2218 MEASUREMENT AND PAYMENT**

Replace third paragraph of Pay item 22.02 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.

Add the following Pay items to 22.07 of the Standard Specifications:

<b>Item</b>	<b>Unit</b>
22.07 Cast in situ concrete and formwork:	
(a) (i) On Class A bedding, screeds and the encasing for pipes, including formwork of class 20/19 .....	m <sup>3</sup>
(a) (ii) Blinding Concrete for Floor slab with (class 15/20 concrete) ...	m <sup>3</sup>

Replace Pay item 22.14 with the Following

<b>Item</b>	<b>Unit</b>
PS22.14 Removing and stacking existing culverts of all sizes and types.	m



## SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, OPEN CONCRETE CHUTES AND CONCRETE LINING OF OPEN DRAINS

### PS 2304 CONSTRUCTION

In item (a) (i), substitute "75mm" with "**100mm**"

### PS 2306 CONSTRUCTION TOLERANCES AND SURFACE FINISH

In item (a) (i), first paragraph, substitute "25mm with "**15mm**"

In item (b) (i), substitute "25mm with "**15mm**"

In item (b)(ii), substitute "25mm with "**15mm**".

### PS 2307 MEASUREMENT AND PAYMENT

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 <sup>2</sup> |
| (ii) 100mm thick to horizontal surfaces.....     | m <sup>2</sup> |

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 at the end of clause 2307

Item	Unit
PS23.16 Access bridges(as per standard drawings)	
(a) Pedestrian bridges	
(i) Type 1.....	No
(ii) Type 2.....	No
(b) Vehicular bridges	
(i) Type 1.....	No
(ii) Type 2.....	No

The unit of measurement shall be number of Pedestrian Bridges/ Vehicular Bridges supplied and installed on site to the satisfaction of the Engineer.

The tendered rate shall include full compensation for furnishing all materials, machinery and man-power for casting, transporting and installing on site to the satisfaction of the Engineer.

PS23.21 Covered Rectangular Drain as per Drawing (including Precast cover, formworks ,reinforcements ,Inlet at 10m interval of the road side)

- (a) Rectangular Drain with cover .....metre (m)
- (b) Extra over precast covers for Rectangular Drain
  - (i) Panels with grates and frame.....No
  - (ii) Panels with lifting hooks at the specified interval.....No

The unit of measurement shall be the metre of the U-Drain (precast or cast-in-situ) with cover complete as constructed, measured along the drain.

The tendered rate for each metre of concrete Drain with cover shall include full compensation for the necessary excavation and preparation of bedding, backfilling, formwork, placing covers, finishing, and for procuring (if precast), furnishing and installing all materials, and protecting it against staining, filling all joints, all complete as specified.

PS23.22 Concrete Pavements

- (a) Cast in situ concrete Pavement for Storm Water Drainage in Class 20/19 ,  
including formworks and reinforced with mesh Ref 617. ....metre (m3)

PS23.23 Cast in situ stone masonry check dam (Typical design as shown in the drawings.....No

The unit of measurement shall be the number of the Cast in situ stone masonry check dam complete as constructed.

The tendered rate for each number of Cast in situ stone masonry check dam shall include full compensation for the necessary preparation of bedding, formwork (if necessary), placing, finishing, and furnishing and installing all materials, all complete as specified.

**SECTION 2500 PITCHING, STONEWORK AND PROTECTION AGAINST EROSION****2508 MEASUREMENT AND PAYMENT**

Add new pay-item 25.03 (c ) to the Standard Specification

Item	Unit
PS25.03 Stone Masonry Walls	
(b) Cement mortared stone	No

The unit of measurement shall be number of Erosion Check Dams installed on site to the satisfaction of the Engineer.

The tendered rate shall include full compensation for Excavation, Backfilling and other Protection works as shown in the Drawings along with furnishing specified materials, machinery and man-power for laying on site to the satisfaction of the Engineer.

**SERIES 3000: EARTHWORKS, SUBBASE, SHOULDERS AND BASE SECTION 3100: BORROW MATERIALS**

Delete the entire Section 3100

The following requirements shall apply:

- (a) The Contractor shall obtain material of the specified quality from any source of its choice.
- (b) Prior to opening any borrow pit or quarry, the Contractor shall submit to the Engineer a scanned original of the mining permit or a copy certified by the Chief Mining Engineer.

**No separate payment shall be made for this item. Payment shall be built in the related work items.**

Add the following clause to End of 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 there from, and shall, at his own expense, carry out repairs or restoration as the Engineer may direct.

Care shall be taken that no un-discharged 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**

**PS 3202 SELECTING THE MATERIALS**

Add the following at the end of Clause 3202 of the Standard Specifications:

The quality of the materials in the borrow pit is normally 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 of Clause 3206 of the standard Specifications:

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****PS 3301 SCOPE**

Add the following at the end of the Clause 3301 of the Standard Specifications:

This section also covers the excavation of material in the river channel near drainage structures, so that easy flow of water is maintained so that drainage structures and embankments are protected from erosion and/or undermining. It also includes the removal of flood deposited material at crossings to restore openings of bridges and culverts so that overflowing is controlled.

**PS 3303 CLASSIFICATION OF CUT AND BORROW EXCAVATION****3303(a) Classes of Excavation**

Delete all paragraphs of Sub Clause 3303(a) and substitute with the following:

Only two types of excavation are specified in this Section and shall be classified as follows for the purposes of measurement and payment:

(i) **Hard Excavation**

Hard excavation shall be excavation in material which can only be removed by drilling and blasting or with the use of pneumatic tools. This excavation specifically excludes material which can be excavated by the use of mechanical excavators or by ripping and dozing using a bulldozer of approximately 35 ton mass or larger when fitted with a single tine ripper and having a flywheel power of 250kW or more.

(ii) **Soft Excavation**

Soft excavation shall be all excavated material other than hard excavation.

**3303(b) Method of Classification**

Replace Sub Clause 3303(b) of the Standard Specification with the following:

The Contractor shall be at liberty to use any method he wishes to excavate any class of material, but the method of excavation shall, however, not dictate the classification of the excavation. The Engineer shall decide under which of the above classes any excavation shall be classified and paid for. The classification shall be based on inspection of the material to be excavated and the method of excavation proposed by the Contractor. The decision of the Engineer as to the classification shall thereafter be final and binding.

The Contractor shall immediately inform the Engineer as and when the nature of the material being excavated changes to the extent that a new classification for further excavation is warranted.

Failure of the part of the Contractor to timeously advise the Engineer shall entitle the Engineer to classify, in his sole discretion, such excavation as may have been executed in material of a different nature.

The Contractor shall, if required, make available free of charge the necessary mechanical equipment specified in PS 3303(a) in order to test the removability or otherwise of the material.

**PS 3305 TREATING THE ROADBED****3305(a) Removal of Unsuitable Material**

Add the following at the end of Sub Clause 3305(a) of the Standard Specification:

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.

Any anthill or termite working encountered within the road prism shall be excavated as specified in PS1703 (e) and the material so excavated shall not be used in the fill. When the working is active the excavated area shall be treated with an approved chemical. No separate payment will be made for excavation and removal of anthill or termite working.

Payment for chemical treatment shall be in accordance with pay item PS17.04.

**PS 3307 Fills****(d) Benching**

Add the following at the end of Sub Clause 3307 (d) of the Standard Specification:

"In order to obtain sufficient working width for road-building equipment when the existing road fill is widened, it may be necessary to form benches that extend beyond the normal road prism or to cut back into the existing road fill or both. The Contractor shall submit his proposals in this regard to the Engineer for approval before proceeding with such work. The Contractor will not receive any additional payment in respect of sacrificial widening required to provide a working width wide enough to accommodate his equipment. The volume of fill and other layer works admitted to the measure in widening/benching situations will be restricted to only the theoretical quantity required for the widening. This quantity will be that contained between the old fill slope and the new (widened) fill slope. "

Replace entire Sub-clause 3307 (i) of the Standard Specification with the following:

**(i) Widening fills**

Where existing or eroded fills are to be widened, the existing fill slopes or eroded faces and the roadbed onto which the new fills are to be constructed shall be cleared and grubbed, if so ordered by the Engineer in writing. The clearing and grubbing shall be done in accordance with the provisions of section 1700. Subsequently the new roadbed shall be treated in accordance with the provisions of clause 3305.

Where existing fills are required to be widened or where already constructed fills are required to be widened or flattened, it shall be done by way of bench construction as described in Sub clause 3307(d) in order to form a firm bond. During these operations there shall be close liaison between the Engineer and the Contractor.

Benches not exceeding 500 mm in depth shall be cut into the existing fill. In the upper metre of any fill, the benches shall not be deeper than the layer thickness prescribed for constructing the widening, unless un-compacted fill material occurs in the side of the existing fill.

The benches shall extend into the properly compacted portion of the original fill material to the satisfaction of the Engineer.

All suitable material from benches shall be used in the construction of the widened section of the fill. Unsuitable material shall be removed as instructed by the Engineer. Benches shall be compacted together with the fill widening during the construction of the fill.

Where the existing fill consists of rock fill, the new section shall consist of rock fill, unless otherwise approved by the Engineer. Where a rock fill is widened by adding soil or gravel material, the contractor shall obtain prior instructions from the Engineer as to the type of subsoil drainage to be provided and other measures to be taken. Benching in rock fills shall be planned in consultation with the Engineer.

#### **PS 3312 MEASUREMENT AND PAYMENT**

Replace “including free – haul up to 0.5 km” with “including unlimited free – haul distance” in pay – items 33.01, 33.02, 33.04 and 33.07 and elsewhere where payment of Overhaul has been proposed.

Delete the third paragraph of Pay Item 33.01 and substitute the following:

The tendered rates shall include full compensation for procuring, furnishing and placing the material, including excavating as if in soft excavation, for transporting the materials for unlimited free haul distance, for preparing, processing, shaping, watering, mixing and compacting the materials to the densities or in the manner specified herein and for removing and disposing oversize materials from the road after processing.



Replace Pay Item 33.07 of the Standard Specification with the Following:

Item	Unit
PS33.07 Removal of unsuitable material (all classes of unsuitable materials and excavation at any layer thickness including transport cost with unlimited free haul).....m <sup>3</sup>	

Add New Pay item 33.14 at end of Clause 3312 of the Standard Specification

PS	33.14	River	Training
	.....		
	....m <sup>3</sup>		

The unit of measurement shall be the cubic metre of material measured in its original position in cut and computed by the method of average end areas from cross-sections taken along the Bed Level, but prior to excavating the cut, with the final specified or authorized bed level to be attained thereon.

The tendered rates for cut to spoil shall include full compensation for excavating in the various classes of excavation, for loading, transporting the material for a unlimited free-haul distance, off-loading and disposing of the material as specified, including shaping and levelling-off any piles of spoil material.

**SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL****PS 3402 MATERIAL****3402 Material****(a)General**

Add the following at the beginning of Sub Clause 3402 (a) of the Standard Specifications:

The Contractor shall be responsible for identifying suitable sources of construction materials.

**3402(c) Subbase**

Add the following at the end of First Paragraph of Sub Clause 3402 (c) of the Standard Specifications:

The subbase shall be formed from both imported material and material recovered from the existing pavement layers. The Contractor shall import material from approved sources identified by him. The imported subbase material may be blended with the base material recovered from the existing pavement or used separately provided the material meets the specifications.

**3402(f) Compaction Requirements**

The minimum in situ compaction of pavement layers shall be as specified in the drawings. The compaction effort shall apply to both the carriageway and shoulders.

**PS 3403 CONSTRUCTION**

Replace Sub-clause (e) and substitute with the following:

**3403(e) Reconstruction of pavement layers**

It is intended that the existing surfacing shall be removed to spoil. If milled then the surfacing and crushed stone base course shall be ripped and removed to stockpile temporarily on site for re-use as subbase material. The exposed layer shall be scarified to 150mm deep, watered and compacted to the density shown on the drawings. The widened sections shall be constructed to below subbase layer. The excavated crushed stone base course materials shall be broken down to conform to grading requirements, blended with imported subbase quality materials to make-up the required quantities, relayed over the entire widened cross section, stabilized with lime or cement, watered, mixed and compacted to the thickness and density shown on the drawings to form new subbase course layer. Base course layer shall be constructed using imported crushed stone materials from fresh rock compacted to thickness and density shown on the drawings.

The Contractor shall ensure that during the removal of the existing base to stockpile the materials is not contaminated with plastic shoulder and underlying materials. Any material that in the opinion of the Engineer is contaminated shall be replaced with suitable material at the Contractor's expense.

**3403(f) Classification of layers for payment purposes**

Insert in the first paragraph the word "not" between the words "shall distinguish" to read "shall

not distinguish".

Add the following sub-clauses after Sub Clause 3403 (f) of the Standard Specifications:

**(g) Temporary Stockpiling of Material**

The Contractor shall plan his activities so that materials excavated from borrow areas, cuttings and existing pavements and fills, or imported from commercial sources, can be directly transported to and placed at the designated points.

The temporary stockpiling of material will not be paid for separately unless instructed by the Engineer, and full compensation will be deemed to have been included in the rates tendered for the various payment items for work in which the material is to be used.

**(g) Existing Asphalt Base or Surfacing**

Existing asphalt base or surfacing which cannot be broken down effectively to be used as part of the recovered pavement material, shall be separately excavated from the existing pavement layers and disposed of at approved dumping sites provided by the Contractor, all in accordance with Clause 3805.

**(h) Storing Recovered Pavement Material**

Excavated pavement material intended for reprocessing but which cannot be reprocessed in place or cannot, in the opinion of the Engineer, be placed in a windrow next to the excavation, nor directly placed in position anywhere else, shall be dealt with as specified in clause 3806.

**PS3404 PROTECTION AND MAINTENANCE**

Add the following at the end of Clause 3404 of the Standard Specifications

In addition, payment may be withheld at the sole discretion of the Engineer for any pavement layers on a particular section of the road, until the trimming of the sides of cuts and fills, the construction of side drains, including subsurface drainage where specified through cuttings, the installation of culverts other than low height culverts etc., Have all been completed for that section.

Where paved side drains are specified and the geometric shape of such drains do not permit the completion thereof before the construction of the subbase or subsequent layers a temporary profile will be permitted for the side drain provided that such profile shall effect positive drainage of the surface water with no water allowed to pond on and stand against structural layers of the pavement.

**PS3407 MEASUREMENT AND PAYMENT**

Replace the pay item 34.01 to read as follows:

Item	Unit
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	m <sup>3</sup>

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

The tendered rates shall include full compensation for mixing, 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.

Delete Pay Item 34.02.

**SECTION 3600: CRUSHED-STONE BASE OR SUBBASE****PS 3602 MATERIALS**

Add the following at the end of Clause 3602 of the Standard Specifications:

Existing crushed stone base shall be scarified and removed to stockpile for re-use as subbase material in the new construction. The crushed stone material for base course shall be obtained from commercial sources or from approved quarry pits and crushed by the Contractor.

**SECTION 3800: BREAKING UP EXISTING PAVEMENT LAYERS****PS3807 MEASUREMENT AND PAYMENT**

38.01 Excavating and removing existing bituminous material (except milled material):

(a) Material to be disposed of with the average depth of excavation:

(ii) Exceeding 30 mm but not exceeding 60mm.....m<sup>2</sup>

(iii) Exceeding 60mm..... m<sup>2</sup>

**SERIES 4000: ASPHALT PAVEMENTS AND SEALS SECTION****4100: PRIME COAT****PS 4102 MATERIALS****4102(a) Priming material**

Add the following at the End of Sub - Clause 4102 (a) Standard Specifications:

The prime coat shall be MC 30 cut-back bitumen. The nominal rate of application for tender purposes shall be 0.8 litre/m<sup>2</sup>.

**PS 4103 EQUIPMENT****4103(a) Binder Distributor**

Add the following paragraph:

(viii) The distributor shall comply with the latest BS 1707 for mobile tank spraying units and shall have a valid CAS or SABS or other approved calibration certificate.

**PS 4110 MEASUREMENT AND PAYMENT**

Add the following at the end of the Pay Item 41.01(c) - Prime Coat MC-30 cut-back bitumen:

Where the Engineer decides that payment will be made at 80% of the tendered rate/litre, because the application rate has deviated considerably from the specification, the rate shall be 0.8 times the rate tendered for item 41.01(c).

**SECTION 4300: MATERIALS AND GENERAL REQUIREMENTS FOR SEALS****PS 4303 PLANT AND EQUIPMENT****4303(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 asphalt surfacing 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.

**4303(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.

**4303(c) Chip spreaders****Add the following at the end of the first paragraph of Sub Clause 4303 (c):**

The chip spreader shall be capable of delivering a proper and uniform transverse distribution of chips across the width of the hopper. The chip distribution shall be tested by means of canvas patches each 1.0 x 1.0m and placed side by side. The mass of chips spread into each individual canvas patch shall not deviate by more than 10% from the calculated average spread per canvas patch.

**Add the following to the last paragraph of Sub Clause 4303 (c):**

A non-self-propelled chip spreader may only be used in the event of a breakdown of the self-propelled chip spreader and shall be limited to the completion a distributor load. No further application of binder shall be permitted until such time as the self-propelled chip spreader is repaired or replaced.

Replace Last paragraph of Clause 4303 of the Standard Specification with the Following

It is the Contractor's responsibility to incorporate, service and maintain all the necessary, adequate and sufficient equipment to carry out all his sealing operations. The Contractor may use the same bitumen distributor and heater described in Sub-Clauses 4103(a) and (d).

The Engineer shall be entitled to instruct the removal, substitution or addition of equipment should there be any doubt as to the efficiency or capability of the equipment provided. No sealing work shall commence or continue if, in the opinion of the Engineer, all the required equipment is not on the site or in good operational condition.

**PS 4304 GENERAL LIMITATION AND REQUIREMENTS**

**4304(a) Weather limitations**

- (i) Conventional Binders
  - (2) Bitumen's

Add the following:

70/100 penetration grade bitumen .....	25 <sup>0</sup> C
MC-30 cut-back bitumen .....	10 <sup>0</sup> C

Replace 4304 (a) (ii) of the Standard Specification with the following

- (ii) 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.

**4304(d) Preparation of areas to be sealed**

- (ii) Newly constructed seals

Replace entire Sub Clause with the following:

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 grading of a Fine slurry. 60% stable mix-grade emulsion prepared from 80/100 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 the 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.

## **PS 4305 HEATING AND STORAGE OF BITUMINOUS BINDERS**

### **4305(b) Non- homogenous (heterogeneous) modified binders (summer grade)**

Replace entire sub-clause 4305 (b) of the standard Specification with the following:

After completion of the bitumen-rubber reaction, the binder shall be cooled to below 160°C. 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 program 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 controlsampling and testing on the binder from the stage just prior to the addition of the rubber to thebase 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.

The spray and storing temperatures of the bitumen-rubber binder shall comply with the following requirements:

Spray temperature (°C)	provided by supplier
Max storing time at spray temperature (hours)	4

## **PS 4310 DUST CONTROL**

Replace Second paragraph of the Clause 4310 of the Standard Specification with the following

Payment for dust control shall be deemed included in the unit rates tendered for sealing work.

**SERIES 5000: ANCILLARY ROADWORKS****SECTION 5100: MARKER AND KILOMETRE POSTS****PS 5101 SCOPE**Add the following:

Road reserve beacons shall be constructed according to details on the drawings at an interval of 200m on either side of the road. The unit of measurement shall be the number of beacons installed to the satisfaction of the Engineer.

**PS 5106 MEASUREMENT AND PAYMENT**Add the following pay item:

Item	Unit
PS51.02 Kilometre posts . . . . .	No

The tendered rate shall include full compensation for supplying all materials and labour, making and transporting the kilometre posts, setting out, excavating and backfilling all the holes and disposing of surplus excavated material, including unlimited free-haul.

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, masonry construction, backfilling, plastering, engraving and painting 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 3<sup>rd</sup> paragraph of the Standard Specifications:

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
PS 52.13 Galvanized and painted guardrails on concrete posts including end units and reflective plates as per drawings.....	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 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 excavating and backfilling post holes with C 15/20 Grade concrete and removing any surplus excavated material from site.

**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 galvanized 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 914 mm 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 galvanized steel plate (Chromadek or approved equivalent) position as shown in the drawings:

- (a) Area not exceeding  $2\text{m}^2$  .....  $\text{m}^2$
- (b) Area exceeding  $2\text{m}^2$  but not  $10\text{m}^2$  .....  $\text{m}^2$
- (c) Area exceeding  $10\text{m}^2$  .....  $\text{m}^2$

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 Liability 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 Liability period the Contractor shall repaint all road traffic markings. No separate payment shall be payable. The Contractor shall make appropriate allowance in his program and his tender rates for re-painting at the end of the Defects Liability 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 Liability 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 monies 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(a) Paint**Add the following at the end of Sub Clause:-

- (ii) Retro-reflective road marking paint

Road marking paint shall comply with the requirements of SABS 731-1 for type 1 paint

During actual painting the Contractor must supply sealed samples of the paint to be used to the Engineer together with details of the paint batch numbers and testing carried out on these particular batches by the paint manufacturer to prove compliance with this specification. These samples shall be kept until the end of the period of maintenance.

**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 molded 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, ascreed 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 of Clause 5507 of the Standard Specifications

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 calipers. 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/m<sup>2</sup> of marking. This amount shall be in addition to the quantity already mixed within the composition of the thermoplastic.

**PS 5510 ROAD HUMPS AND RUMBLES STRIPS****(a) Definition and dimension**

A road hump shall consist of a physical obstruction transverse to the road. The road hump should have a cross section parallel to the line of the road which has a relatively large diameter circular finished profile typically several metres in length.

Unless otherwise shown on the drawings or directed by Employer's representative, the length of the cross section of a road hump measured in the direction of traffic flow shall be 5000 mm and the thickness of the cross section shall be 102mm at its mid-point and zero at its edges.

Unless otherwise shown on the drawings or directed by Employer's representative, a road hump shall extend from the outer edge of one shoulder to the outer edge of the opposite shoulder, for the purposes of reducing traffic speed. Its ends shall have the same profile as the half cross section.

A rumble strip shall consist of several very closely spaced physical obstructions transverse to the road, each with a cross section having a relatively small diameter circular finished profile which is typically less than a metre in length.

Unless otherwise shown on the drawings or directed by Employer's representative, the length of the cross section of each of the several obstructions forming a rumble strip measured in the direction of traffic flow shall be 300 mm and the thickness of the cross section shall be 50mm at its mid point and zero at its edges.

A rumble strip consisting of five physical obstructions at 600 mm centers and extending from the outer edge of one shoulder to the outer edge of the opposite shoulder unless otherwise shown on the drawings or directed by Employer's representative, for the purposes of reducing traffic speed is defined as a Speed Reducing Rumble Strip. The ends of each obstruction shall have the same profile as the half cross section.

A rumble strip consisting of three physical obstructions at 600 mm centres and extending from the inner edge of the shoulder for a distance of 500 mm across the shoulder unless otherwise shown on the drawings or directed by Employer's representative, for the purposes of delineating the edge of the shoulder and alerting errant drivers, is defined as a Shoulder Delineating Rumbles Strip. The ends of each obstruction shall have the same profile as the half cross section.

**(b) Material**

Prime coat shall consist of MC-70 cutback bitumen. Road humps and rumbles strips shall be constructed using a fine asphalt surface mix produced in accordance with the requirements of section 4500.



Paint shall be white-hot applied thermoplastic material, in accordance with section 5500.

### (c) Construction

Road humps and rumbles strips shall be constructed after completion of the bituminous surfacing.

Road humps and rumble strips shall be set out in a manner similar to that specified in section 5506. The pre-marking must be approved by Employer's representative prior to the commencement of installing road humps or rumble strips.

A prime coat shall be applied to the surface over which the road hump or rumble strip is to be constructed. The prime coat shall consist of MC-70 cutback bitumen and shall be applied at a rate of 0.55litre/sq.m or as directed by Employer's representative.

The asphalt mix shall be placed and compacted into moulds, and finally shaped to the required profile by rollers and tampers.

The work shall otherwise conform mutatis mutandis to the requirements of section 4500.

White-hot applied thermoplastic road marking shall be applied to road humps and rumble strips, in accordance with the requirements of section 5500.

### 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.

Add the following new Pay- items at the end of the Standard Specifications

PS 55.10 Road Humps and Rumbles Strips

Supply and install rumble strips.....m

PS 55.11 Construction of Speed humps as per Standard drawing

(i) Traffic Humps 5m wide across full width of the road.....Nos

**SECTION 5700: LANDSCAPING AND GRASSING****PS 5702 MATERIALS**

Add/amend the following to the relevant sub-clauses:

**5702(g) Topsoil**

Replace paragraphs two, three and four, with the following of the standard Specifications:

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 anyway, particularly by trucks driven over such material.

**PS 5704 PREPARING AREAS FOR GRASSING****5704(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.

**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.

**5705(a) Planting Grass Cuttings**

**Add the following to this sub-clause:**

Fresh grass cuttings of the "Kapinga" species or other approved species shall be planted by the Contractor at 250 mm center to center 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.

**5705(c) Hydro-seeding**

Add the following to this sub-clause:

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

**5705(e) Grassing With an Approved Grassing Machine**

**Add the following to this**

**sub-clause:**

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

**PS 5706          MAINTAINING THE GRASS****5706(a)          Watering, Weeding, Mowing and Replanting**

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

**5706(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.

**5706(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.

*Add new Clause 5710 to the Standard Specifications*

**PS 5710: STREET AND ROAD LIGHTS****(a) Introduction**

Solar lights absorb energy from our sun and turn it into area illumination when it is dark. Their integrated photo voltaic module, micro controller and lithium battery combine with high output LEDs and a human infrared sensor to achieve multiple features such as low power consumption with high luminance. Their design delivers a long lifespan with minimal maintenance and provides a complete solution for off-grid or remote applications. The rated components ensure endurance against harsh weather and keep solar lights free from corrosion and premature failure.

**(b) Normative References**

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below. Deviation from Standards shall only be allowed with prior approval by Employer's representative.

- (i) BS 7671: Requirements for Electrical Installations. IET Wiring Regulations
- (ii) SANS 475:2006 Luminaires for interior lighting, street lighting and floodlighting -

### Performance requirements

- (iii) ARP 035: 2005 Guidelines for installation and maintenance of street lighting
- (iv) SANS 1088: 2004 Luminaire entries and spigots
- (v) SANS 1574: 2004 Electrical cables – flexible cords and flexible cables
- (vi) SABS IEC 926:1995 Auxiliaries for lamps – Starting devices: General and safety requirements
- (vii) SABS IEC 60927:2005 Starting devices (other than glow starters) - Performance requirements
- (viii) SANS 529: 2001 Heat-resisting wiring cables
- (ix) SANS 1507: 2002 Electric cables with extruded solid dielectric insulation for fixed installations
- (x) SANS 1777:2004 Photoelectric control units for lighting (PECUs)
- (xi) SABS ISO 1461:2000 Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
- (xii) SANS 556-1:2004 Low-voltage switchgear Part 1: Circuit-breakers
- (xiii) BS 1490: 1988 Specification for aluminum and aluminum ingots and castings for general engineering purposes.
- (xiv) BS5489-1:2013 + A2:2008 Code of Practice for the design of road lighting part 1: Lighting of roads and public amenity areas
- (xv) BS EN 13201-3:2003 Calculation of Performance
- (xvi) BS EN 13201-4:2003 Methods of Measuring Lighting Performance

### **(c) Features of the Patent of the Integrated Design**

The Solar powered outdoor lighting has the following benefits: -

- (a) Easy installation;
- (b) No cable needed;
- (c) Safety and reliability due the lithium battery built with panel together
- (d) Using LifePO4 battery to prolong product life and protect environment;
- (e) Light output can be adjusted automatically by a built-in infrared sensor;
- (f) Due to its modularity design becomes easy assemble and maintenance;
- (g) Compact volume and light weight design saves freight cost and installation cost Rust-proof, dustproof and waterproof.
- (h) Working Time

a. Bright Mode (100%): ≥8hrs

b. Dim Mode (30%): ≥24hrs

(i) Environmental Rating

a. Charge Temp. 0°C~+60°C

b. Discharge Temp. -20°C~+60°C

(j) Three years warranty.

**(d) Physical Specification**

**Integrated Panel with Bulb**

(a) Dimension: 1143(L)×306(W)×59(T)mm

(b) Net Weight:12.5kg

(c) Bright Mode (100%): 1660lm

(d) Dim Mode (30%): 580lm

(e) Beam Type: Bat Wing

(f) Visual Angle: 130°(g) Color Temperature: 5000K

(g) Light Photosensitivity (typ.): 30 lx

(h) Working Time: Bright Mode (100%): ≥8hrs, Dim Mode (30%): ≥24hrs

(i) Environmental Rating: Work Temperature

(j) Charge Temp. 0°C~+60°C

(k) Discharge Temp. -20°C~+60°C

(l) Storage Temperature -20°C~+45°C

(m) IP Rate: IP65

(n) Light Source: 85 W LED lamp

(o) Solar Module: 72W

(p) LiFePO4 Battery Internal: 15.6AH (r) AC Input: Optional

(q) PIR Sensor: Panasonic

(r) Over-load / Over-charge / Over-discharge Protection: Yes

**(e) Bulb**

(a) Small size high-flux LED for slim designs (between 100 mA and 800 mA constant current). 128 lm, 115 lm/W (350 mA, 5000 K).

- (b) Package: SMT ceramic package with silicon resin with lens
- (c) Color: neutral white, 4000 K to 5000 K; CRI = 70 (typ.)
- (d) Viewing angle at 50% Iv: 150°
- (e) Chip technology: Thin GaN (UX3)
- (f) Grouping parameter: luminous flux, color coordinates, forward voltage
- (g) Soldering methods: reflow solderable
- (h) Preconditioning: acc. to JEDEC Level 2
- (i) Taping: 12-mm tape with 600/reel, ø180 mm
- (j) ESD-withstand voltage: up to 8 kV acc. to JESD22-A114-D
- (k) Corrosion robustness: superior corrosion robustness

**(f) Sensor**

The sensor should have the following:-

- (i) Short focal length is all that's required even when detecting at the same distance, which means both downsizing and high sensitivity
- (ii) The high-density embedded circuit design eliminates external sensing circuits.
- (iii) The entire circuitry should be enclosed in a metal package, which has high electromagnetic shielding capability.
- (iv) Power supply voltage –0.3 to 7.0VDC
- (v) Usage ambient temperature –20 to 60°C No freezing and condensing at low temperature)
- (vi) Circuit stability time 25s typ. 210s max.
- (vii) Output voltage (When detecting) Vdd-0.5VDC min.
- (i) Output current (When detecting) 100µA max.

**(g) Mounting Pole**

The pole should be two sections straight shape, 9.5m height galvanized steel pole with casting powder, fluctuation diameter 89-114 mm, wall thickness of 2.5 mm, Flange 250\*250\*10mm. The top most part of the pole should have provisions to fix the solar Photovoltaic module (Solar panel) whose details are shown in the drawing.

**(h) Installation**

The details of installation are shown in drawing. Recommended Installation: -

- (a) Height 6m
- (b) Distance of Poles Range: 22m

**(i) Quality and Warranty**

The system to be supplied should carry a minimum warranty of three (3) years from the date of supply.

**PS 5709 MEASUREMENT AND PAYMENT**

**Merge pay items 57.01 and 57.02 as follows:**

<b>Item</b>	<b>Unit</b>
PS57.01 Trimming and shaping by hand and/or machine ..... (km)	kilometer

The unit of measurement shall be the kilometre of road trimmed on both sides. The tendered rate shall include the full compensation for ripping, ploughing (as described in Clause 5707) including top-soiling by using topsoil obtained from road reserve with unlimited free haul.

PS57.12 Paving sidewalks with interlocking bricks:

(a) On walkway with 60mm thick, 25Mpa interlocking bricks..... m2

(b) 30mm thick sand bedding for interlocking bricks..... m2

The tendered rates shall include the full compensation for the supply and laying of approved sand bedding and paving units in accordance with the specifications. Sand and paving bricks shall be obtained from sources identified by the Contractor and haulage distance shall be unlimited.

PS57.14 (a) Provide Solar Street lighting in towns and trading centers including all material,

Installation and commissioning of solar powered street lighting as instructed

by the Engineer

No.

**SECTION 5800: FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS****PS 5804 MEASUREMENT AND PAYMENT**

Delete pay items 58.01 and 58.02. The Contractor shall be deemed to have included the cost of these works in Item 15.01, in related or in any other tendered rates.

**SERIES 6000: STRUCTURES****SECTION 6200: FALSEWORK, FORMWORK AND CONCRETE FINISH****PS 6204 DESIGN****6204(b) False work****Add the following:**

In the view of the possibility of flooding of the river during construction of the bridge decks, the Contractor shall not be permitted to adopt a method of construction or arrangement for supporting the deck formwork, which is vulnerable to damage during flooding. Although the Contractor is free to select suitable arrangements for the support work, the arrangements shall be subject to acceptance by the Engineer. If the Engineer consider the proposed arrangement unsuitable, the Contractor shall be required to amend and resubmit alternative arrangements acceptable to the Engineer. The Contractor shall not be entitled to additional payment or extension of time arising from the Engineer's rejection of his proposals.

The following conditions shall apply:

- (a) Where the deck formwork support is provided by a system of girders, the girders are required to be supported by temporary supports mounted on the pier/abutment foundations or by approved temporary connections to the pier/abutment walls. Girders shall also be supported by sufficient intermediate temporary supports to ensure that the deflections remain within limits acceptable to the Engineer. All temporary supports shall be designed and braced to resist horizontal flood loading, and shall incorporate measures to prevent erosion and undermining. A minimum clear distance of 3,2m measured perpendicular to the direction of the river flow shall be maintained between all temporary supports to allow the passage of water and flood debris.
- (b) Where the deck formwork consists of conventional staging of closely spaced braced supports, measures shall be taken to deviate the river flow around the staging. Such measures shall provide adequate scour protection, foundation platforms and flow deflection walling to protect the staging from damage or undermining during flooding, and shall be subject to acceptance by the Engineer.

The Contractor's proposals for the falsework and formwork arrangement shall be subject to the approval of the Engineer, and shall be timeously submitted for approval. The design calculations and drawings for the falsework shall be signed by a qualified and registered Structural Engineer employed by the Contractor.

**NOTE: TENDERERS ARE REQUIRED TO SUBMIT WITH THEIR TENDER, CONCEPT DETAILS OF THEIR INTENDED METHOD OF ACCOMMODATING THE FLOW OF THE RIVER AND SUPPORTING THE DECK FORMWORK.**

**6204(c) Formwork****Add the following:**

The design and construction of the deck soffit formwork shall ensure that no cracking of the



deck concrete occurs at an early age as a result of localized movement constraints. This may be achieved by utilizing a number of continuous longitudinal formwork bearers with suitable connections to the concrete piers, or by other means acceptable to the Engineer. All details shall be subject to the Engineer's approval.

At all deck construction joints special attention should be paid to the attachment of the formwork assembly to the sections of concrete cast first.

The Contractor shall allow for the above requirements in his tendered rates for formwork.

## **PS 6205 CONSTRUCTION**

### **6205(b) Formwork**

#### **(i) General**

#### **Add the following:**

In order to obtain a high-quality uniform finish to the exposed side faces of the parapet, it is required that the formwork for these elements be constructed from custom built steel formwork or approved new timber boarding with a high quality sealed (impermeable) facing. Custom built steel formwork shall be constructed from plate of minimum thickness 4mm.

Formwork to the deck and parapet soffits and the sides of the deck may be constructed from timber or steel formwork panels. The formwork panels must be in a new condition, or must be selected used panels in an "as-new" condition.

#### **(ii) Formwork to exposed surfaces**

#### **Add the following to the first paragraph:**

The arrangement of formwork and boards is required to present a neat and regular appearance. The Contractor is required to submit his proposed arrangement to the Engineer for approval.

## **PS 6209 UNFORMED SURFACES: CLASSES OF FINISH**

### **6209(c) Class U3 surface finish (smoothly finished)**

#### **Add the following paragraph:**

The unformed surfaces of the parapet and kerb shall receive a Class U3 finish.

## **SECTION 6400: CONCRETE FOR STRUCTURES**

### **PS 6407 PLACING AND COMPACTING**

#### **6407(b) Placing**

#### **Add the following:**

The Contractor's method of placing and compacting the fresh concrete shall be carefully planned and shall be subject to the Engineer's approval.

**PS 6409 CURING AND PROTECTING****Add the following:**

Unless specifically approved by the Engineer, the following curing methods shall be employed:

- (1) Piers and abutments shall be cured by retaining the formwork in place for a period not less than two (2) days (extended to three (3) days in the case of cold weather), thereafter the concrete shall be cured for a further five (5) days in accordance with methods (d), (e) or (f) of this sub-clause, subject to the Engineer's approval. Where plastic sheeting is used, the concrete shall be wrapped in white plastic of minimum thickness 250µm. The tops of the piers and abutments shall be kept continuously wet.
- (2) The top surfaces of the deck slabs shall be kept continuously wet for a minimum period of five (5) days after casting.
- (3) The parapets shall be kept continuously wet for a minimum period of five (5) days after casting.

**SECTION 6500: PRESTRESSING****PS6512 MEASUREMENT AND PAYMENT****Add the following new pay items**

**PS65.04** Prestressing Tendons (viz. installing of 19 T 13 PSC strand with HDPE sheathing, grouting and stressing with all)..... MT

The tendered rates shall include full compensation for preparing and submitting the Drawings, supplying, storing, handling and protecting all materials, fabricating, supporting and installing the cables; lubricating, permanently protecting and bonding the tendons, for the using of all the equipment, as well as for all work and incidentals required for completing the work as specified.

**SECTION 6600: NO-FINES CONCRETE, JOINTS, BEARINGS, PARAPETS AND DRAINAGE FOR STRUCTURES****PS6603 JOINTS IN STRUCTURES****6603(d) Plug Type Expansion Joints Add the following paragraph:**

The expansion joints in bridges shall be installed by a specialist approved or appointed by the supplier and the installed joints shall be guaranteed to provide a stable, completely watertight, corrosion and maintenance free system for a period of fifteen years from the date of final acceptance by the Engineer. The guarantee shall confirm that any defect resulting from defective materials, installation and/or workmanship shall be repaired by the Contractor at his cost.

Add the Following New Clause to the Standard Specifications

**PS 6600 EARTH RETAINING STRUCTURE MECHANICALLY STABILIZED EARTH (MSE)****PS 6601 SCOPE**

This Section covers the furnishing materials required for construction of Mechanically Stabilized Earth (MSE) walls that are reinforced, with reinforcements and different possible facings and reinforced earth slopes.

**PS 6602 MATERIALS****a) General**

All materials used in constructing MSE walls, shall comply with BS EN 14475:2006 OR SANS 54475 or as specified in the Special specifications and be subject to approval by the Engineer. When requested by the Engineer, the Contractor shall submit test certificates from an approved independent testing authority to show that materials comply with specified requirements, or where applicable certificates from patent holders or licensees certifying that manufactured items comply in all respects with relevant product specifications. All facings, soil reinforcement and fastener materials shall be designed and sourced from a single supplier to ensure compatibility.

The Contractor shall provide detailed specifications, test data, performance data and compliance certificates from independent reputable agencies for all proprietary systems, processes and materials proposed for use. These shall demonstrate conformance with the performance requirements as specified in the Drawings, Special Specifications or as instructed by the Engineer.

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's current published instructions.

**b) Concrete facings**

Concrete facings shall be manufactured from materials which comply with relevant requirements of Sections 6200, 6300 and 6400 and should have a minimum 28-day cube strength of 35 MPa unless otherwise specified in the Special Specifications or in Drawings.

**c) Concrete block facings**

Concrete block facings used in MSE walls shall be manufactured and tested in accordance to BS 8110:2005. These shall have a positive connection to reinforcement.

Pigments used for colouration of concrete blocks shall conform to BS EN 12878.

**d) Concrete bases and foundations for earth retaining systems**

All materials for concrete bases and foundations for earth retaining systems shall comply with requirements of Sections 6300 and 6400.

**e) Metallic soil reinforcements**

Metallic soil reinforcement shall be manufactured from corrosion-resistant materials designed to ensure adequate performance when buried for the design life of the structure. This metallic reinforcement may take the form of sheets, grids, meshes, strips, bars, rods, ladders etc. and shall comply with section 3.2.1 of BS 8006-1:2010.

Galvanizing shall comply with the requirements of ISO 1461: 2009 for bars and SANS 675 for wire up to 5.0 mm in diameter.

**f) All facing units and their applications shall conform to BS EN 14475:2006 Fasteners between facing and reinforcing elements**

Fasteners or joints (either metallic or polymeric) between facing and reinforcing elements shall comply with Section 3.4 of SANS 8006-1. Facings shall have a positive connection to

reinforcing elements. Galvanizing shall comply with ISO 1461:2009.

**g) Joint filler materials on facings**

Fillers shall be durable, flexible, and resistant to effects of air pollution, and water that might be contaminated with de-icing salt.

**h) Bedding material**

Selection of bedding material depends upon structural behaviour of the facing assumed in design of the wall. Cement mortar or a durable gasket material such as resin bonded cork, bitumen bonded cork, rubber or ethylene propylene diene monomer (EPDM) may be used upon the approval of the Engineer.

**i) Sealing material**

Filling of joints other than bedding joints may be done either with closed cell polyethylene foam, closed cell polyurethane foam strips in the joint, or geotextile strips over the rear face of joint as approved by the Engineer.

Any accessory proprietary products, elements or fittings necessary for construction of MSE structures shall comply with appropriate, accepted standards or specifications.

**j) Polymeric materials**

All polymeric materials delivered to a site shall be identified in accordance with BS EN ISO 10320 and ISO/TR 20432:2007

**k) Fill Materials**

Selected fill behind MSE wall facings over the length of reinforcement shall comply with requirements of material class G 45 material as given in Clause 3402 with a maximum size of 50 mm and be free draining.

**l) Permeable Filter Material**

Permeable filter materials behind the MSE wall shall consist of crushed stone of suitable grading. Crushed stone shall be of hard, clean rock. If permeable filter material conforming to the criteria given below is not obtainable in the opinion of the Engineer, then geotextile shall be used as directed by the Engineer.

Permeable filter material shall be free of organic material, silt or clay lumps and shall conform to the following requirements:

1. d85 for the permeable filter material shall be minimum 1.25 times the width of the slots in the drainage pipe
2. d15 for the permeable filter material shall be maximum 5 times d85 for the adjacent soils
3. d50 for the permeable filter material shall be maximum 25 times d50 for the adjacent soils
4. d15 for the permeable filter material shall be minimum 5 times d15 for the adjacent soils
5. the permeable filter material shall have maximum 50 % passing the 2 mm sieve
6. the permeable filter material shall have maximum 3 % passing the 0.075 mm sieve

Where:

d15, d50 and d85 are the corresponding grain sizes which passes 15%, 50% and 85%

respectively in the sieve analysis

## **I) Polymeric reinforcement joints**

### *(i) General*

Joints are subdivided into prefabricated joints and joints made during execution of the works. A number of different jointing systems are in use.

Joints in geotextiles shall normally be sewn where load transference is required utilising either single or double chain stitching. Types of stitching and seams (prayer, butterfly, J, flat or Z) for geotextiles and bodkin details for polymeric meshes or grids should be as given in the Drawings, Special Specifications or as instructed by the Engineer.

Care shall be taken to ensure that:

- Bodkins are of sufficient cross-sectional area and strength to avoid excessive deformation,
- Bodkins are not so large as to distort the parent material causing stress concentrations, or
- Joints are pre-tensioned prior to loading, to reduce joint displacement as components lock together.

Joints shall be formed to have high mechanical and durability efficiency, compared to the performance characteristics of the parent materials. Test methods used to assess joints shall correspond closely to those procedures employed when determining properties of the parent materials. All joints used in permanent structures designed to carry loads shall be tested in accordance with BS EN ISO 10321 and results presented to the Engineer for approval.

### *(ii) Overlaps*

In situations where relatively small tensions develop, overlapping may be employed utilising coarse sand-filled 20 mm thick joints (***Permeable Filter Material complying with Clause 2104 of the standard Specification***).

Such joints are sometimes used in secondary tensile directions but shall not be employed in primary tensile directions in reinforced soil structures. Overlapping may also be used for jointing under water where amount of overlap depends on design considerations and construction conditions.

### *(iii) Stapling*

This method may be used with geotextiles to make temporary joints. Stapling shall never be used for structural jointing.

### *(iv) Other jointing methods*

Other jointing methods may be adopted. However, general recommendations as set out above still apply.

## **m) Fasteners and connections between facing and reinforcing elements**

### *(i) General*

Fasteners are used to make a connection between the reinforcement and the facing and take the form of dowels, rods, hexagon headed screws and nuts and bolts, and shall consist of either steel or polymers.

The choice of material used to form the fastener shall be compatible with design life of structure. Materials for fasteners and connections shall conform to criteria described in BS EN 14475

*(ii) Steel coatings*

These may be divided into two groups:

- metallic coatings, including galvanizing in accordance with BS EN ISO 1461 and aluminium-zinc coatings in accordance with BS 2569; and,
- organic coatings, including bitumen in accordance with BS 3416 and BS 4147, coal tar products in accordance with BS 4164, polyvinyl chloride (PVC), liquid and powder epoxies and liquid polyurethanes.

The application rates of coating to the base metal of the fastener should be as given in the Drawings, Special Specifications or as instructed by the Engineer.

**PS 6603 DEFINITIONS**

- I. **Anchored earth** - is a form of reinforced soil which uses anchors embedded within the soil mass to provide stability/resistance to pull-out by passive action of the anchor and friction along the anchor shaft or loop.
- II. **Geo-grids** - are polymeric, planar structures consisting of an open network of connected polymeric yarns used in geotechnical and civil Engineering applications.
- III. **Geo-textile** - are permeable, polymeric materials, which can be woven, non-woven or knitted, used in geotechnical and civil Engineering applications.
- IV. **Polymeric reinforcement** - is a generic term that encompasses geo-synthetic materials used as soil reinforcement in geotechnical Engineering such as geotextiles, geo-grids and geo-strips.
- V. **Reinforcing Element** – shall be metallic in form of **Strips** (aluminium alloy, Copper, Carbon Steel, Galvanised Steel, Stainless Steel, Ladder) or **mats** (Steel Grids, Woven and Welded Steel Wire Meshes) or **Synthetic** (PET, HDPE, PVA, PP) reinforcement in the form of grid or Strip or Strap or combination of metallic or synthetic or any other proprietary material, which may be approved by the Engineer and as shown on the drawings or as specified in the special specifications.
- VI. **Reinforced soil** - is a general term which refers to use of imported or in situ soil or other material in which tensile reinforcements act through interface friction, bearing or other means to improve stability.
- VII. **Reinforced soil segmental block structure** - is a reinforced soil structure with facing comprising dry stacked blocks with a fixed connection, without compressible joints between blocks and without joint fillers/covers.
- VIII. **Retained backfill** - is the fill material located between the reinforced mass and natural soil.

**PS 6604 MSE WALLS WITH CONCRETE FACINGS****a) Construction Equipment**

Normal earthmoving and compaction equipment may be used in construction of MSE walls and slopes except for the proviso that no compaction equipment of mass greater than 1,500 kg may be used within 2.0 m of facings. This area shall be compacted with pedestrian rollers and mechanical thumpers.

**b) Execution of the Works**

All MSE walls constructed with concrete block facings shall be installed as per the **Concrete Block Retaining Wall (CBRW) Installation Manual 5<sup>th</sup> edition 2009, SANS 54475 or BS EN 14475:2006**.

All MSE walls constructed with concrete facings shall be constructed in accordance with **SANS 54475 or BS EN 14475:2006**.

**(i) Concrete facings**

Concrete facings shall be manufactured in accordance with the dimensions and details shown on the MSE wall supplier's drawings and where necessary, these details shall be adapted to suit joining onto existing structures, inclined foundations, varying heights or similar conditions.



Special facings shall be produced for copings, and terminal sections. The 28 day compressive strength of the concrete shall be 35 MPa unless otherwise specified in the Drawings, Special Specifications or as instructed by the Engineer.

These facings shall be manufactured in accordance with the provisions of Sections 6200, 6300 and 6400 with due regard to cover, durability considerations and alkali silica reaction. They shall have an off-shutter class F2 surface finish. Concrete facings are typically between 140 and 180 mm thick. Selected facings shall have a protruding patterned or exposed aggregate finish as indicated in the Drawings or as specified in Special Specifications.

Date of manufacture and classification of every facing panel shall be clearly marked on the back of such panel at the top end.

Concrete facing panels shall not be removed from their moulds until the concrete has attained sufficient strength to avoid for any sag, crack or edge break. They shall not be stacked more than five high during storage. Bottom concrete facing panels shall be supported off-ground via timber blocking and adjacent concrete facing panels shall be separated by timber blocks packed between the tie strips to prevent any forces from being transmitted onto the tie strips.

## **(ii) Metallic reinforcement**

### **1. Handling**

Metallic reinforcement shall be loaded, unloaded and handled in such a way as to prevent bending which causes permanent set or damage to any protective coating.

Reinforcement shall not be dragged across abrasive surfaces such as reinforced concrete or coarse angular soils or through deleterious materials.

To avoid punctures or fractures in any covering that might allow ingress of corrosive media, only fibre rope, webbing slings or protected chains shall be used.

Connecting lugs attached to the facing elements shall be handled with similar care to prevent damage to the protective covering.

### **2. Storage**

Metallic reinforcement shall be stored in neat stacks clear of ground at all times and supported on non-absorbent materials to avoid contamination. Ideally storage shall be located close to construction activities. Items of different lengths and cross-sectional dimensions shall be stacked separately and clearly marked.

Storage arrangements shall preferably maintain separation between batches delivered. Ideally one batch shall be fully utilised before the next one is used to facilitate quality control.

## **(iii) Polymeric reinforcement**

### **1. General**

Polymeric reinforcements are woven, knitted, coated or extruded geotextiles, geo-grids or geo-composite geotextiles. Polymeric reinforcements shall be assessed according to **ISO/TR 20432:2007**. Details of packaging and hence handling and storage thus vary from product to product. The manufacturer's prescriptions to this effect shall be strictly adhered to.

Where recommendations given below do not relate to a particular product further advice shall be sought from an approving authority, supplier or manufacturer.



## **2. Handling**

Polymeric reinforcement materials are generally supplied in rolls, which shall bear a conformity identification mark, e.g. according to BS EN ISO 10320. Site handling shall ensure that surface abrasion, slitting, notching or tearing is prevented.

Where a central tube or mandrel to facilitate lifting is supplied, the manufacturer's recommendations shall be followed. In any case, geotextiles supplied in rolls shall be supported at a minimum of two points to prevent excessive bending unless a central steel tube is used for support.

## **3. Storage**

Storage condition of geo-synthetic reinforcing materials shall take account of their characteristics and placement needs.

Generally, short term storage on site may be carried out without particular precautions as long as products are kept within their packaging. Prolonged exposure to light shall be prevented either by storage under cover or by opaque-packaging cover.

Geotextiles shall be stored in dry conditions particularly for materials that absorb water and where low temperatures might cause freezing and make placing difficult.

Where bars or other fixings are required for geo-synthetic reinforcement, these shall be stored in clean dry conditions.

### **(iv) Accessories**

Any accessory proprietary products, elements or fittings shall be manufactured in accordance with the dimensions and details shown on the drawings. Accessories shall be handled in accordance with the supplier's recommendations.

## **c) Construction**

### **(i) Excavations**

All excavation for bases of earth retaining systems shall be in accordance with the provisions of Section 6100. Construction of the bases shall not commence before the excavations are properly cleaned and inspected and approved by the Engineer.

### **(ii) Foundation**

Foundation planes for MSE structures shall be graded for a width equal to length of soil reinforcement and to heights shown on the MSE drawings and compacted to greater than 95 % of the Maximum Dry Density as per Section 6100 & 7000 or in accordance with the requirements of Section 3600 higher density as may be specified. All foundation soils found to be unsuitable shall be removed and replaced with compacted, approved granular material or other such materials as are approved by the MSE supplier's Engineers. Measurement and payment for this work will be paid for under the relevant items of Section 3600. Alternatively, such preparation preceding foundation construction, as may be specified in the Special Specification, shall be carried out in accordance with the provisions of the section.

A concrete footing, conforming to correct lines and levels, shall be constructed in accordance with details shown on the MSE drawings.

### **(iii) MSE**

Prior to the placing reinforcing elements a method statement shall be submitted to the Engineer for approval providing details of operation-sequence. The method adopted shall ensure the reinforcement does not suffer deterioration during placing and any joints or connections are effectively- formed.

Construction of MSE shall conform to **SANS 54475** or **BS EN 14475:2006** and any procedures specified by wall system supplier as agreed with the Engineer. Concrete facing panels can only be installed after characteristic cube crushing strength corresponding to 28 days have been achieved as specified in the Drawings or Special Specifications. Testing in this regard shall conform to the requirements of Section 6400 & 7000 for concrete strengths.

The following specifications are considered as minimum construction requirements (In all cases the MSE supplier's engineering specifications shall prevail if they exceed minimum construction requirements):

- The bottom row of facing panels shall be carefully aligned on the foundation footings in accordance with the details provided on the approved construction drawings. These facing panels shall be properly braced to prevent movement during placing of the first layers of back-fill. Each facing panel shall be individually checked by survey after placement to confirm it is correctly placed to line, levels, inclinations and tolerances specified.
- Geo-synthetic/polymer reinforcement shall either be fixed to the panels providing positive connection in an approved manner or clamped between the panels where specified. Special care shall be taken to ensure the edges on facing panels are not sharp or jagged such that the reinforcement may be damaged.
- The geo-synthetic layer shall be uniformly laid taut over its specified length and held in place by approved means. The Engineer's approval of such tensioning shall be obtained prior to any placement of backfill. There shall be no loss of tension during backfilling operations. Damaged reinforcements shall be removed and replaced at the Contractor's cost.
- Fill material behind the facing panels shall be placed and compacted in accordance with Section 3400 and greater than 95 % of the Maximum Dry Density at a moisture content of 0 to plus 2 % of the optimum moisture content, except that the layer thickness may vary slightly to suit the position of soil reinforcement.
- Deposition, spreading, levelling and compaction of fill shall generally be carried out in a direction parallel to the facings, and shall be executed in stages to alternate with placing and fixing of the reinforcing elements and the facing.
- Fill shall be deposited, spread, levelled and compacted in horizontal layers of appropriate/specified thickness. Spreading and compaction shall be carried out so that all layers of the soil reinforcing elements are fixed at the specified levels on top of the compacted fill.
- Fill shall be placed such that it slopes away from the face at 2 % to ensure water ponding at the soil/facing element interface does not occur.
- Fill shall not be placed right up to the cladding panels before the underlying reinforcing is covered, with compacted fill materials to anchor the reinforcement adequately to maintain the facing panel in position. Fill shall be placed from the end of the reinforcement to the cladding panels.
- Metallic reinforcement shall be placed on compacted fill and in intimate contact with the ground, which shall have a nominal fall of 2 % away from the facing.
- If inspection of elements prior to or during placement reveals bends or kinks with a radius less than twice the reinforcement thickness, these shall be rejected.
- Small areas of galvanized coating damaged during handling shall be repaired in accordance with BS EN ISO 1461.
- Most sheet products exhibit preferential strength direction and therefore placing of reinforcement shall be consistent with the direction of major stresses. Details shall be indicated on the drawings and Drawings, Special Specifications or as instructed by the

Engineer.

- Ideally, strips shall be laid in the major load bearing direction, i.e. transverse to the embankment centreline. However, construction is facilitated and sewing time minimized if geo-synthetics are laid in centreline direction. This is not recommended but may be allowed if joint-integrity is assured and the design takes account of likely transverse-direction-reduced-strength.
- Geo-textiles and geo-grids are generally supplied in rolls of specific width. Rolls shall not be cut along their width to fit a smaller area and overlapping between adjacent rolls shall be adopted, this to avoid ravelling after cutting.
- Geo-textiles may be cut to length using a sharp blade, scissors or shears. Materials which may ravel shall be heat-treated or bonded with approved adhesive tape at the cut position. Cutting to size of polymeric sheet geo-grids shall be performed before placing.
- Care shall be taken to ensure that reinforcing elements are not damaged or displaced beyond specified tolerances during filling and compacting. Filling shall be arranged so that no machines or vehicles run over the reinforcing elements. All vehicles and construction equipment greater than 1,500 kg mass shall be kept more than 2.0 m away from the facing. Suitable compaction equipment of mass less than 1,500 kg may be used within 2.0 m of the facing

**PS 6605 WORKMANSHIP****a) Facing foundations**

Facing foundations shall at all times be level or stepped in facing panel size benches to ensure subsequent panels are always placed level even if on sloping surfaces. Ground improvement or drainage works to be carried out prior to commencement, if specified in drawings or in Special Specifications or as instructed by the engineer and shall comply with Section 2100 and 3500 of the standard specification.

**b) Unsuitable Founding Conditions**

Where the bottom of the trench does not provide a suitably firm foundation for the MSE on account of soft, mucky or otherwise unsuitable material being encountered, the unsuitable material shall be excavated to a depth as may be indicated by the Engineer.

The Contractor shall excavate the unsuitable material to the depth indicated and shall replace it with gravel or other approved material properly compacted to provide a firm earth cushion.

The width of the excavation shall be as prescribed by the Engineer, or as indicated in the drawings.

Other special construction methods may be as shown on the Drawings, or as specified in the Special Specifications or as instructed by the engineer in specific cases.

**c) Classification of Excavation**

All excavations for MSE walls shall be classified as provided in CLAUSE 3303 for payment purposes.

**d) Disposal of Excavated Material**

Where excavated material does not comply with the requirements for backfilling material as per Series 6000 or is surplus to backfilling requirements, such excavated material shall be removed from the site and used for rehabilitation of borrow pits or at other places as directed by the Engineer.

Material suitable for use in the Works, however, shall be used as prescribed by the Engineer.

Payment for such material will be made as for excavation under ITEM 28.02, and also under the appropriate item for such part of the Works as may be constructed from such material.

No haulage will be paid for excavated material.

**e) Concrete facings**

Concrete quality shall be tested to ensure compliance with 28 day strength, oxygen permeability, water sorptivity and chloride conductivity as detailed in Section 7000 and/or as specified in Special Specifications.

#### f) Concrete blocks

##### 1. Tolerances

Blocks shall comply with category D2 of BS EN 771-3. The width of a block is the distance from the front face to the soil face and shall be as defined in BS EN 771-3:2003. In some instances, the exposed face is often a textured face or else is a rough face created by splitting a double-width block, which may be outside the specified width. The location of any nibs or voids is critical and the method statement shall provide details of the specific blocks used and the associated operation-sequence.

##### 2. Shear strength

The shear strength between blocks and connection strength between block and reinforcing element shall be determined. Concrete block facings used in MSE walls shall be manufactured and tested according to **BS 8110:2005**.

The test methods in ASTM D6916 and ASTM D6638 for measuring block-to-block shear strength and block-to-soil reinforcement connection strength for blocks with plane-faced bedding material shall be used as and where required.

### PS 6606 MEASUREMENT AND PAYMENT

Item	Unit
PS 66.22 (i) Construction of MSE Walls including supply and installation of precast Panels, reinforcement strips, bearing pads, concrete levelling pad, geotextile	
Filter fabric and concrete coping as per DWGs	m <sup>2</sup>

The tendered rate shall include full compensation for all materials in the structure as supplied by the MSE system supplier and shall include but not be restricted to

- Technical assistance costs;
- Storing, loading, transporting and off-loading;
- Quality Assurance;
- Surface preparation for bedding and cladding panels;
- All labour, materials, formwork and construction equipment necessary for the erecting the MSE structure complete and to the specifications;
- Excavation for concrete footings as specified in Division 8100 except that no additional excavation shall be measured where formwork is required;
- Concrete footings for structures in accordance with the net approved dimensions for the concrete footings and including the specified concrete class and strength;
- The installation of jointing materials, the connecting of soil reinforcement to the cladding panels, the installation of monitoring test strip samples and settlement and tolerance monitoring;

- Infill concrete to the specified class and strength placed on top of the wall in accordance with the supplier's detail;
- Supply and installation of precast concrete coping units, including any required concrete backing, steel reinforcement or a soft-board bond breaker;
- Synthetic fibre filter fabric.

PS66.22 (ii) Extra over standard fill items for the construction of fills with soil reinforcement.....  
 ..... m3

The unit of measurement shall be the cubic metre of fill placed between the soil reinforcement in accordance with the approved dimensions of the reinforced soil bounded by the reinforcement.

The tendered rate shall include full compensation for the additional cost of sourcing and constructing the fills containing reinforcement, and for adjustment to normal backfilling methods as may be necessary for placing and backfill materials as specified in this Division.

**SECTION 6900: CONCRETE FOR BUS BAY PLATFORMS**

The bus bays platforms are as detailed on the drawings. The construction shall include but not limited to:

- (i) Necessary excavation in any material and at any depth and preparation of the excavated surface;
- (ii) Pavement layers laid and compacted in 150mm layers to 95% modified AASHTO density using subbase quality materials;
- (iii) Laying edge kerbs around the platform or fixing formwork for casting concrete all as shown on the drawings;
- (iv) Fixing reinforcement and casting concrete with shrinkage joints and hard broom surface finish;
- (v) Curing the concrete in accordance with the relevant specifications.

**PS 6901 MEASUREMENT AND PAYMENT**

Item	Unit
PS69.01 Concrete Pavements for Bus Bays	
(a) Class 30/19 cast in situ concrete reinforced with mesh Ref 617 in Bus bays, including any other works, operation or activity necessary for completing the bus bay platform in compliance with the specifications and drawings.....	m <sup>3</sup>
(b) Construct Bus Shelters	No.

The unit of measurement for pay item 69.01 (a) shall be the cubic-meter of reinforced concrete placed, cured and approved by the Engineer.

The tendered rate shall include the full compensation for carrying the works items listed above including any other works, operation or activity necessary for completing the bus bay platform in compliance with the specifications and drawings.

The unit of measurement for pay item 69.01 (b) shall be the number of passenger shelter Constructed/ installed on Site to the satisfaction of the Engineer.

**SECTION 7100: TESTING OF MATERIALS AND WORKMANSHIP**

Add the following Clause.

**Clause 7115: Testing by Independent Parties**

- (a) The Contractor shall not appoint a third party to carry out any tests without the Engineer's approval. The Engineer reserves the right to reject the results of any tests carried out by parties not approved by him. All in situ tests shall be carried out in the presence of the Resident Engineer or a representative appointed by him.

The Engineer may from time to time appoint an independent organization or person to carry out any tests and the Contractor shall accord such organization or person full cooperation and assistance he may require.

Add the following new Section 9000

**SECTION PS 9000: DAYWORKS****PS 9001 SCOPE**

This section covers the listing of daywork 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.

**PS9002 ORDERING OF DAYWORK**

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

**PS9003 MEASUREMENT AND PAYMENT**

Item	Unit
<b>PS 90.01 Personnel during normal working hours</b>	
(a) Unskilled labour.....	hour (h)
(b) Semi-skilled labour.....	hour (h)
(c) Skilled labour.....	hour (h)
(d) Ganger.....	hour (h)
(e) Flagmen .....	hour (h)
(f) Operators .....	hour (h)
(g) Foremen .....	hour (h)
(h) Surveyor .....	hour (h)
(i) Lab technician .....	hour (h)
<b>Item</b>	<b>Unit</b>
<b>PS90.02 Personnel outside normal working hours</b>	
(a) Unskilled labour.....	hour (h)
(b) Semi-skilled labour.....	hour (h)
(c) Skilled labour.....	hour (h)



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(d)	Ganger.....	hour (h)
(e)	Flagmen .....	hour (h)
(f)	Operators .....	hour (h)
(g)	Foremen .....	hour (h)
(h)	Surveyor .....	hour (h)
(i)	Laboratory Technician .....	hour (h)

Item	Unit
<b>PS90.03 Plant</b>	
(a) Tip Truck 6m <sup>3</sup> .....	hour (h)
(b) Tip truck 10m <sup>3</sup> .....	hour (h)
(j) Motor grader (type specified) .....	hour (h)
(k) Wheeled loader (type specified) .....	hour (h)
(e) TLB (type specified) .....	hour (h)
(f) Water bowser – self-propelled (capacity specified) .....	hour (h)
(g) Vibratory roller .....	hour (h)
(h) Pneumatic roller .....	hour (h)
(i) Grid roller with tractor (type specified) .....	hour (h)
(j) Tractor (type specified).....	hour (h)
(k) Tracked excavator (type specified).....	hour (h)
(l) Bulldozer (type specified).....	hour (h)
(m) Excavator.....	hour (h)
(n) Concrete Mixer.....	hour (h)
(o) Water Pump .....	hour (h)
(p) Light Duty Vehicle	Km
(q) Flatbed Truck	Km
(r) Generator Set	Hour(h)
(s) Compressor Set	Hour(h)
(t) Grinder	Hour(h)

The unit of measurement for items PS 90.01 to PS 90.03 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 considers no other appropriate rates are available in the schedule of quantities. Prior to the commencement of any work by the labourers described under items PS90.01 and PS90.02, 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 PS90.01 and PS90.02 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 PS90.03 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 PS90.04 shall include full compensation for the operating costs including fuel, maintenance, depreciation, administrative and contingent costs as well as profit.

Item	Unit
PS90.04 Materials	
(a) Procurement of materials.....	P.S.
(b) Contractor's handling costs, profit and all other charges in respect of sub item PS90.04(a).....	%

The Unit of measurement for sub-item PS90.04(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 PS90.04(b) shall be the percentage of the amounts actually paid for the procurement of the materials as ordered under the sub-item PS90.04(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.



**Environmental and Social (ES) requirements****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 Health Safety and Environmental Liaison Officer (HSE Officer) to be responsible for the implementation of all environmental mitigation measures. The HSE Officer 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) outlined in Clause 8300 and based on the headings, risks and responsibilities given in the EMT 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 Shrubbery**

#### **(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 anyway encroach upon watercourse itself.

Turbidity increases in a stream or other bodies of water 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, piledriving, 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 thorough and complete and all charred pieces remaining after burning, except for scattered small pieces, shall be removed from the construction area and disposed of as otherwise provided in this 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
- (ii) Soil erosion
  - Controlling and management of excavation activities
  - Installation of erosion control measures such as check dams, scour checksand 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-vegetationof 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:

<b>PIT AND QUARRY REINSTATEMENT SPECIFICATION</b>	
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 horizontal.
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.

<b>REVEGETATION SPECIFICATION</b>	
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 understory 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.
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 organizing 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  
DepartmentPublic 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 of Clause 8203 to avoid the pollution of water courses 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 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
<b>ENVIRONMENTAL MANAGEMENT</b>					
Changes in hydrology impeded drainage	<ul style="list-style-type: none"> <li>• Install drainage structure properly</li> <li>• Efficiency of drainage structures</li> </ul>	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"> <li>• Control earthworks</li> <li>• Install drainage structures properly</li> <li>• Install erosion control measures</li> <li>• Landscape and re-vegetate gravel sites</li> <li>• Management of excavation activities</li> <li>• Impact on erosion (on road, off road,</li> </ul>	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
	<ul style="list-style-type: none"> <li>• embankments, riverbanks, etc.)</li> <li>• Efficiency of erosion control measures</li> <li>• Landscape and grass road embankment</li> </ul>				
Air pollution	<ul style="list-style-type: none"> <li>• Control speed of construction vehicles</li> <li>• Prohibit idling of vehicles</li> <li>• Sensitive workforce</li> <li>• Maintenance of plant and equipment</li> <li>• Plant trees in towns as pollution screens</li> <li>• Impose speed limits for all vehicles, especially at towns and villages</li> <li>• sensitize motorists/road users</li> </ul>	Supervising Engineer and Contractor  Designer/ RA	TA \Health and Environment committees Traffic police	(c) inspection/ observation  (o) observation	(c) Daily /random  (o) random
Air pollution	<ul style="list-style-type: none"> <li>• Control speed of construction vehicles</li> <li>• Prohibit idling of vehicles</li> </ul>	Supervising Engineer and Contractor		(c) inspection/ observation	(c) Daily /random

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

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
Gravel sites	<ul style="list-style-type: none"> <li>Inform people living at/near the sites that the pits have been selected for exploitation.</li> <li>Plan access to gravel sites</li> </ul>	Supervising engineer and Contractor		(c)	meeting	(c) Once immediately after selection of sites
		Supervising Engineer and Contractor		(c)	Inspection	(c) daily
	<ul style="list-style-type: none"> <li>Control and restrict access to gravel sites (e.g. by fencing)</li> <li>Control earthworks</li> <li>Proper management of excavation activities</li> <li>Landscape terrace if necessary, and grass sites. Replace trees that were removed during excavation</li> <li>Discourage pits being made into water pans after construction</li> <li>Rehabilitate old unused gravel pits</li> <li>Compensate individuals/communities as required for use of material</li> <li>Progress of rehabilitated gravel sites (use of site, established vegetation)</li> </ul>	Contractor  Contractor  Supervising Engineer	District Works offices RA	(c) Payment records  (o) Inspection		(o) once before excavation begins and at specified periods as agreed thereafter (c) once in 2 months (o) once in 6 months

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
Hard stone sources	<ul style="list-style-type: none"> <li>Inform communities living at/near the sites that the sites have been selected for exploitation.</li> <li>Plan access to hard stone sites</li> <li>Control and restrict access to hard stone sites (e.g. by fencing)</li> <li>Control blasting</li> <li>Proper management of exploitation activities</li> <li>Landscape site after exploitation and grass sites. Replace trees or vegetation</li> </ul>	Supervising Engineer and Contractor  Supervising Engineer and Contractor  Contractor		(c) meeting  (c) inspection   (c) payments records	(c) Once immediately after selection of sites  (c) daily   (o) once before excavation begins and at specified periods as agreed thereafter
	that were removed during excavation <ul style="list-style-type: none"> <li>Compensate individuals /communities as required for use of material</li> </ul>				
Sand sources	<ul style="list-style-type: none"> <li>Take sand from beds of large rivers only</li> <li>Extraction to be done during lowflow</li> </ul>	Supervising Engineer and Contractor	n/a	(c) inspection	(c) during mining
Water sources	<ul style="list-style-type: none"> <li>Consult with communities during identification of sources</li> <li>Management of water usage</li> </ul>	Designer /RA	n/a	(c) meetings, inspection, check plans and schedule	(c) during rains during abstraction at source and at random

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
Deviations	<ul style="list-style-type: none"> <li>Plans deviations</li> <li>Adhere to road reserve if possible</li> <li>Obtain permission from inhabitant/ community if deviation goes beyond road reserve</li> <li>Re-instate deviations (and old tracks) to original condition</li> <li>Pay compensation for crops/property removed/destroyed by deviations</li> <li>Monitor rehabilitation of deviations</li> </ul>	Supervising Engineer and Contractor  Contractor	Contractor  District Works Offices RA	(c) check plans inspections  (o) Payment records	(o) daily when deviations are in use  (c) once before constructing deviations  (o) Once in 6 months
Vegetation / flora / forests	<ul style="list-style-type: none"> <li>Control clearing</li> <li>Prohibit clearing using herbicides</li> </ul>	Supervising Engineer and Contractor	Contractor	(c) inspection	(c) daily
	<ul style="list-style-type: none"> <li>Replant areas where vegetation is unnecessarily removed</li> <li>Landscaping and planting all disturbed areas (pits, deviations embankments, camp sites)</li> <li>Plant trees at main towns/trading centres along road</li> </ul>	TA Health and Environment Committees			
	<ul style="list-style-type: none"> <li>Planting and grassing should be done just before the rains</li> <li>Discourage use of firewood/charcoal by providing alternatives</li> <li>Care for tree/plants</li> </ul>		TA Health and Environment Committees	(c) observation (o) observation	(c) weekly (o) Random
Workman ship	<ul style="list-style-type: none"> <li>locate camp in terminal town</li> <li>provide water supply</li> <li>provide proper sanitation facilities on site</li> <li>Provide proper solid waste disposal facilities</li> <li>Have central canteen facilities</li> <li>Discourage use of firewood/charcoal by providing alternatives</li> </ul>	Supervising Engineer and Contractor	Contractor	(c) inspection	(c) daily

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
	<ul style="list-style-type: none"> <li>Manage water use in camps</li> </ul>				
Visual Enlargement	<ul style="list-style-type: none"> <li>Landscaping and planting of deviations, gravel sites and camp</li> <li>Plant trees at terminal towns and trading centres</li> <li>Care for plants and trees</li> </ul>	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"> <li>Proper disposal of construction wastes including oil, solid wastes and debris</li> </ul>	Supervising Engineer and Contractor	Contractor	(c) inspection	(c) weekly
Demobilisation	<ul style="list-style-type: none"> <li>Clean up site</li> <li>Remove all debris</li> <li>Remove to original condition</li> </ul>	Supervising Engineer and Contractor	Contractor	(c) inspection and certificate of completion	(c) on completion of road construction works
<b>SOCIAL MITIGATION</b>					
Settlement	<ul style="list-style-type: none"> <li>Plan for increased population and subsequent expansion of terminal towns and trading centres</li> <li>Conduct STD/AIDS awareness campaign</li> <li>Plan for local security</li> </ul>	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"> <li>Identify project affected people</li> <li>Notify people about non-compensation for annual crops within road reserve</li> <li>Evaluate land/property loss due to deviations, materials sites and contractor's camp</li> </ul>	RA	n/a	(c) inspection (c) notices, meetings (c) inspection	(c) Once before construction commences
	<ul style="list-style-type: none"> <li>Compensation to be paid for land and all property on land to temporally acquired for road construction</li> </ul>	Contractor		(c) payment records	(c) compensation paid once after assessment of

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
					loss before construction
	works				
Loss of crops	<ul style="list-style-type: none"> <li>Limits clearing of crops as much as possible</li> <li>Pay compensation for all crops outside road reserve that are removed/destroyed for clearing of carriage way, gravel pits and deviations</li> <li>Compensation to be paid for perennial crops within road reserve</li> </ul>	RA Supervising Engineer and Contractor	Supervising Engineer and Contractor	(c) inspector (c) payment records	(c) Daily (c) Once after assessment of loss before construction
		RA			
Employment	Recruit local	Contractor	n/a	(o) certificate of employment	(o) quarterly
	people, of which				
	at least 25%				
	should be				
	women				
Public Health and Occupational safety	<ul style="list-style-type: none"> <li>Reduce/minimize pollution as above</li> <li>Provide water supply at camps</li> <li>Proper disposal of solid and sanitary waste at camps</li> <li>Design and locate pit latrines prudently</li> <li>Have communal ablution facilities</li> <li>Conduct STD/AIDS awareness campaign and distribute condoms</li> <li>Provide potable water for workforce</li> <li>Provision of protective gear to</li> </ul>	Supervising Engineer and Contractor	Contractor	(c) Inspection	(c) daily
		RA/Ministry of health	RA Ministry of Health	(o) Independent study	(o) once in 6 months
	workforce <ul style="list-style-type: none"> <li>First Aid Kit onsite</li> <li>Appoint Health Safety and Environment officer on site</li> <li>Contractor should have workmen's compensation cover</li> <li>Monitor impact on public health (incidence of malaria, respiratory</li> </ul>				



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
	diseases, STDs HIV/AIDS)				
Disturbance to public	<ul style="list-style-type: none"> <li>Minimise pollution as above</li> <li>Erect information and warning signs</li> <li>Control construction activities</li> <li>Construct special parking bay at terminal towns for trucks/heavy vehicles</li> </ul>	Supervising Engineer  Supervising Engineer  Supervising Engineer and Contractor Design Consultant	Contractor District Works Offices	(c) Inspection  (c) Inspection (c) Inspection (c) Inspection (o) routines maintenance	(c) daily  (c) when affected (c) daily (c) during construction and on completion (o) once in 6 months
Road Safety	<ul style="list-style-type: none"> <li>Install speed bumps near school and trading centres</li> <li>Supervise construction n traffic</li> <li>Ensure safe access/ egress to work</li> </ul>	Design Engineer  Supervising Engineer and Contractor  Design Consultant	Supervising Engineer and Contractor  District Works Offices  District Works offices	(o) (c) Inspection  (c) Inspection (o) routines maintenance  (c) Inspection (o) routine maintenance	(c) daily  (c) when designed  (o) once in 6 months
	sites <ul style="list-style-type: none"> <li>Erect warningsigns</li> <li>Construct shoulders which can be used by pedestrians and non motorized traffic</li> <li>Construct special parking bay at large trading centres for trucks/heavy vehicles</li> <li>Impact on road safety (number of accidents)</li> </ul>		RA	(o) Police report	
Sites of cultural historical	<ul style="list-style-type: none"> <li>Report all findings to Supervising Engineer, RA, Ministry responsible for</li> </ul>	Supervising Engineer and Contractor	n/a	(c) Inspection and report	(c) As needed

<b>Environmental/Social Impact</b>	<b>Proposed Mitigation and Aspect for Monitoring</b>	<b>Responsibility for intervention and monitoring during design, construction and defects liability period</b>	<b>Responsibility for mitigation monitoring and/or maintenance after defects liability period</b>	<b>Monitoring means (c) = Construction (o) = operation</b>	<b>Recommended frequency of monitoring</b>
and traditional value	antiquities and DEA • Avoid all graves				
Socio-economic status	• Changes in income level • Change in health status • Changes in education levels	n/a	RA	(o) Independent Study	(o) once in 5 years
Land use	Change in land use area covered by settlement, arable land, pasture, degraded land shrub/ bush land social land	n/a	District Agriculture Offices, District Physical Planning Department	(o) Independent Study	(o) once in 5 years
Economic activity in project area	Changes in agricultural production and marketing	n/a	District Agricultural Officers/RA	(o) Independent study	(o) once in 5 years
	Changes in livestock production and marketing				

**PS 8000 MEASUREMENT AND PAYMENT****Item Unit**

PS80.01 Provide Health/safety and Environmental Liaison Officer for full period of the project.....Month

PS80.02 Allow for the undertaking and implementation of all the requirements of the Environmental Management Plan as described in Clause 8300 and full compliance with Series 8000 of the specifications.....Lum.Sum

PS80.03 (a) Provide assistance and environmental training to staff..... P S.

PS80.03 (b) Handling costs and profit in respect of Sub item 80.03(a) above (stated as 20 % and extend as an amount)..... %

PS80.07 (a) Provide assistance and Road Safety training to staff..... P S.

PS80.07 (b) Handling costs and profit in respect of Sub item 80.07(a) above (stated as 20 % and extend as an amount)..... %

## Contractor's Representative and Key Personnel

The Contractor shall provide the minimum key specialists listed below to execute the contract, taking into account the nature, scope, complexity and risks of the contract.

No.	Position	In Similar Works Experience (years)
1	<p><b>Project Manager:</b></p> <p>He / She shall possess minimum a Master's degree in Construction Management, Civil Engineering or equivalent qualification with at-least 15 years' experience as a Project Manager in similar contract conditions. Working knowledge and significant experience in administering FIDIC type contracts for construction will be required. The project manager responsibilities will include but not limited to overseeing the all construction works of the project including time and cost management, quality control, safety, supervising the labour force, checking design documents and dealing with any unexpected problems that may occur during the project. He / She will work closely with the appointed Supervision Engineer in all activities related to the project and make sure the project is in accordance with the specified designs.</p> <p>He/she shall be fluent in both written and spoken English.</p>	15
2	<p><b>Deputy Project Manager:</b></p> <p>He / She shall possess minimum a Bachelor's degree or B.Tech in Construction Management, Civil Engineering or equivalent qualification with minimum 10 years' experience as a Project Manager in similar contract conditions.</p> <p>The Deputy Project Manager should have experience in monitoring construction activities, preparation of programmes / schedules , maintaining comprehensive construction records including preparation of progress reports for road projects.</p> <p>He/she shall be fluent in both written and spoken English.</p>	7
3	<p><b>Site Agent:</b></p> <p>He / She shall possess minimum a Bachelor's degree or B.Tech in Civil Engineering or construction related field or equivalent qualification with minimum 7 years' experience as a Site Agent in similar contract conditions.</p> <p>The site agent will be responsible for the management of the construction site activities including but not limited to preparation / review of method statements, carry out site audits to check for works and documentation compliance, supervision of temporary works, and should have considerable knowledge road construction methodologies.</p> <p>He/she shall be fluent in both written and spoken English.</p>	7
4	<p><b>Site Construction Manager:</b></p> <p>He / She shall possess minimum a Bachelor's degree in Civil Engineering or Construction Management or equivalent qualification in the construction field with minimum 10 years' experience as site construction manager in similar contract conditions.</p> <p>The site construction manager responsibilities and duties shall include but not limited to the supervision of the site running construction activities and ensure the project is completed in time and budget.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
5	<p><b>Bridge Engineer:</b></p>	10

No.	Position	In Similar Works Experience (years)
	<p>He / She shall possess minimum a Master's Degree in Structural Engineering or Civil Engineering specializing in bridge construction with minimum 10 years' experience as bridge engineer in similar contract conditions working for a construction company.</p> <p>He/she shall be fluent in both written and spoken English.</p>	
6	<p><b>Earthwork foreman:</b></p> <p>He / She should possess minimum a Diploma in Civil Engineering / construction management or equivalent qualification with minimum 10 years work related experience. Formal foreman training / certification with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
7	<p><b>Drainage Foreman:</b></p> <p>He / She should possess minimum a Diploma in construction or civil engineering related field with minimum 10 years work related experience. Formal foreman training / certification with excellent knowledge of civil engineering construction processes of drainage systems would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
8	<p><b>Pavement Foreman:</b></p> <p>He / She shall possess minimum a Diploma in road construction or civil engineering related field with minimum 10 years work related experience. Formal foreman training / certification in road construction with excellent knowledge of civil engineering construction processes of DBST roads and mechanically stabilized layers, would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
9	<p><b>Plant/Equip. Manager:</b></p> <p>He / She should possess minimum a Diploma in construction equipment repair and maintenance or equivalent related field with minimum 10 years work related experience.</p> <p>The Plant / Equipment Manager shall be responsible for the proper management of plant, equipment and machinery used on the construction site, creating reports and keeping records documenting all operations on site.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
10	<p><b>Piling Foreman:</b></p> <p>He / She shall possess minimum a Diploma in civil engineering, construction or closely related field in civil engineering with minimum 7 years work related experience. Formal foreman training / certification in piling with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>He/she shall be fluent in both written and spoken English.</p>	7
11	<p><b>Formwork Foreman:</b></p> <p>He / She shall possess minimum a Diploma in civil engineering or civil engineering construction related field or equivalent with minimum 5 years work related experience. Formal foreman training / certification in formwork with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>The formwork foreman duties and responsibilities shall be but not limited to reading and interpreting of structural drawings to design formwork, inspection of temp</p>	5

No.	Position	In Similar Works Experience (years)
	<p>orary works for quality, carry out formwork design , supervision of the installation of formwork.</p> <p>The Formwork Foreman should have technical knowledge and experience temporary works design and installation of formworks in the roads construction industry.</p> <p>He/she shall be fluent in both written and spoken English.</p>	
12	<p><b>Reinforcement Foreman:</b></p> <p>He / She should possess minimum a Diploma in civil engineering or construction management or closely related field in civil engineering construction with minimum 10 years work related experience. Formal foreman training / certification in reinforcement concrete with excellent knowledge of civil engineering construction processes would be highly desirable.</p> <p>The Reinforcement Foreman should have technical knowledge and experience in monitoring of reinforcement activities such as cutting, bending, fabrication and placement of steel rebar as per drawing specifications in a similar roads construction project.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
13	<p><b>Concrete Foreman:</b></p> <p>He / She should possess minimum a Diploma in civil engineering / construction management / construction science / construction material science or closely related field in civil engineering construction with minimum 10 years work related experience. Formal foreman training / certification in concrete with excellent knowledge of civil engineering construction processes of concrete structural / non structural members would be highly desirable.</p> <p>The Concrete Foreman will be responsible for the supervision of all concrete related activities including concrete preparation, placing, finishing and curing.</p> <p>He/she shall be fluent in both written and spoken English.</p>	10
14	<p><b>Environmental Site Officer:</b></p> <p>He / She should be an environmentalist with minimum a Bachelor's degree in environmental engineering, environmental science, environmental management or equivalent qualification with a specialization in environmental monitoring of infrastructure projects or environmental risk management. He/she should have a minimum of 7 years experience covering implementation and monitoring of Environmental and Social Management Plans (ESMP) in road construction projects.</p> <p>He / She should have experience in environmental impact assessment for major infrastructure projects in the SADC region. Fluency in English both written and spoken is essential.</p>	7
15	<p><b>Social Specialist:</b></p> <p>He / She should be a qualified individual with minimum a Bachelor's degree in Social Sciences and proven experience on management of social related issues in infrastructure project or a closely related discipline. The Social Specialist shall have a minimum of 7 years' experience, working on social management studies for projects of similar nature in road construction or linear projects and be able to demonstrate a sound knowledge of social issues affecting local communities (HIV/AIDS,STDs etc.), initiatives and impact assessment and mitigation measures in developing and tropical countries. Ability to deal with communities and affected persons including government officials is essential. Fluency in English both written and spoken is essential.</p>	7

No.	Position	In Similar Works Experience (years)
	The social specialist should have also a demonstrated experience of dealing with grievances in the construction projects. Fluency in English both written and spoken is essential	
16	<b>Site Occupational Health Officer:</b> He/she should possess minimum a Diploma in Occupation Health Studies, Health Science or equivalent related program. The qualified officer should have similar 5 years experience in construction related projects within the region. He/She should have experience overseeing health activities aimed at the promotion and maintenance of highest degree of physical, mental and social wellbeing of workers on similar construction infrastructure projects; He/she shall be fluent in both written and spoken English. Ability to communicate in Portuguese is desirable.	5
17	<b>Site Occupational Safety Officer:</b> He / She should be a qualified professional with minimum a diploma in Occupational Safety / Safety Management or equivalent related program. The qualified officer should have proven 5 years similar experience in similar conditions. He/she shall be fluent in both written and spoken English. Ability to communicate in Portuguese is desirable.	5

## Drawings

A set of reduced scale drawings are issued as Volume 2 of the bidding documents. These drawings are for bidding purposes only. The Contractor will be supplied with two (2) full size paper prints of each of the approved Construction Drawings at contract commencement

## **Supplementary Information**

Bidders will be provided with a factual materials report and a sample environment and social management impact assessment report for information purposes only and shall not form part of the bidding documents. The Employer will not be responsible for the accuracy of the information provided or any deduction made by the bidder.





## **Part 3 – Conditions of Contract and Contract Forms**

## Section VIII - General Conditions of Contract

**Employer:** The Roads Authority (RA), Malawi

**Name of contract:** Multinational Nacala Road Corridor Development Project Phase –V:  
**REHABILITATION OF NSIPE-CHINGENI-LIWONDE (M001/M008)**  
**ROAD SECTION (55 KM) IN NTCHEU AND BALAKA DISTRICT.**

OCBI No: RA/DEV/MGH-BLK-NU/2022-23/04

### Red Book

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The Conditions of Contract are the “General Conditions” which form part of the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (“Red book”) Second edition 2017” published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC) and the following “Particular Conditions” which comprise of the AfDB’s COPA and the amendments and additions to such General Conditions.

An original copy of the above FIDIC publication i.e. “*Conditions of Contract for Building and Engineering Works Designed by the Employer*” must be obtained from FIDIC.

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## **Section IX - Particular Conditions**

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

## Part A – Contract Data

Conditions	Sub-Clause	Data
Employer's name and address	1.1.31	The Chief Executive Officer Roads Authority of Malawi Private Bag B346 Lilongwe MALAWI Tel : +265 (0) 1 753 699 Fax : +265 (0) 1 750 307
Engineer's name and address	1.1.35	Pinaki Roychowdhury B-1/E-27, MCIE, Mathura Road, New Delhi-110044, Lea Associates South Asia Pvt. Ltd. India in Association with RUO Consulting Engineers, Malawi
Bank's name	1.1.89	African Development Bank (AfDB)
Borrower's name	1.1.90	<b>The Government of the Republic of Malawi</b>
Time for Completion	1.1.84	540 days
Defects Notification Period	1.1.27	365 days. (one year)
Sections	1.1.73	N/A
Electronic transmission system	1.3 (a) (ii)	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.
Address of Employer for communications:	1.3(d)	The Chief Executive Officer Roads Authority of Malawi Private Bag B346 Lilongwe MALAWI Tel : +265 (0) 1 753 699 Fax : +265 (0) 1 750 307
Address of Contractor for communications:	1.3(d)	To be Nominated (TBN)
Governing Law	1.4	The Laws of the Republic of Malawi
Ruling language	1.4	English.
Language for communications	1.4	English.
Time for the Parties to sign a Contract Agreement	1.6	28 days after receipt of the Letter of Acceptance
Number of additional paper copies of Contractor's Documents	1.8	4
Total liability of the Contractor to the Employer under or in connection with the Contract	1.15	The Product of 1.2 times the Accepted Contract amount excluding VAT and Provision Sum.
Site	1.1 74	N/A
Joint and Several Liability	1.14	(f) Minimum share of a member of Joint Venture, Consortium or Association (JV) in the contract shall not be less than 25% percent of the total value of the contract.
Time for access to the Site	2.1	No later than the Commencement Date

Conditions	Sub-Clause	Data
Engineer's Duties and Authority	3.2	Variations resulting in an increase of the Accepted Contract Amount in excess of 25% shall require written consent of the Employer.
Sustainable procurement	4.1	<b>Not Applicable</b>
Performance Security	4.2	<p>The Performance Security will be in the form of a demand guarantee in the amount(s) of 8% percent of the Accepted Contract Amount and in the same currency (ies) of the Accepted Contract Amount.</p> <p>The performance Bank Guarantee/Security shall be unconditional, irrevocable and payable on the first demand on the Bank's approved form only.</p> <p>The performance Bank Guarantee/ Security shall be issued either (a) by a bank located in the country of the Employer or a foreign bank through a correspondent bank located in the country of the Employer, or (b) with the agreement of the Employer directly by a foreign bank acceptable to the Employer.</p>
Environmental and Social (ES) Performance Security	4.2	The ES Performance Security will be in the form of a "demand guarantee" in the amount(s) of 2% of the Accepted Contract Amount and in the same currency (ies) of the Accepted Contract Amount.
Period for notification of errors in the items of reference	4.7.2 (a)	28 Days
Period of payment for temporary utilities	4.19	7 Days
Number of additional paper copies of progress reports	4.20	3 (Three)
Maximum allowable accumulated value of work subcontracted (as a percentage of the Accepted Contract Amount or volume of work-as per provision made under BDS of ITB 34.2)	5.1(a)	30%
Parts of the Works for which subcontracting is not permitted	5.1(b)	None
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. The Contractor should note that the working hours for Engineer's personnel on Saturday are from 7:30 to 1:30 hours.
Number of additional paper copies of program	8.3	Within 28 calendar days after the Commencement Date
Delay damages payable for each day of delay	8.8	0.05 % of the Accepted Contract Amount, less provisional sum for DAAB.
Maximum amount of delay damages	8.8	10 % of the Accepted Contract Amount less provisional sum for DAAB.
Method of measurement	12.2	The method of measurement of completed work for payment shall be in accordance with the

Conditions	Sub-Clause	Data
		measurement and payment item in the General and Particular Specifications.
Percentage Profit	12.3	5%
Percentage rate to be applied to Provisional Sums for overhead charges and profit	13.4 (b)(ii)	5 %
Adjustments for changes in cost	13.7	Adjustment for changes in cost shall not apply.
Total advance payment	14.2	<b>20 % Percentage</b> of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable
Repayment of Advance payment	14.2.3	(a) exceeds 25 % of the portion of the Accepted Contract Amount payable in that currency less Provisional Sums (b) deductions shall be made at the amortization rate of 20 % of the IPC Amount.
Period of payment	14.3	Monthly
Number of additional paper copies of Statements	14.3(b)	4 (Four)
Percentage of retention	14.3(iii)	10% of Certified IPC.
Limit of Retention Money (as a percentage of Accepted Contract Amount)	14.3(iii)	10% of Accepted Contract Amount <ul style="list-style-type: none"> <li>• 50% will be released at practical completion</li> <li>• 50% will be released at the end of defects notification period</li> </ul>
Plant and Materials	14.5(b)(i)	Not applicable
	14.5(c)(i)	Plant and Materials for payment when delivered to the Site but not yet incorporated in the works is 80% of the receipted Amount.
Minimum Amount of Interim Payment Certificates	14.6.2	2% of the Accepted Contract Amount.
Period of payment of Advance Payment to the Contractor	14.7(a)	28 days
Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.6 (interim Payment)	14.7b(i)	56 days
Period for the Employer to make interim payments to the Contractor under Sub-Clause 14.13 (Final Payment)	14.7b(ii)	28 days
Period for the Employer to make final payment to the Contractor	14.7(c)	56 days
financing charges for delayed payment (percentage points above the average bank short-term lending rate as referred to under sub-paragraph (a))	14.8	For Local Currencies -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 The interest rate for payments in foreign currency is as follows+:-

Conditions	Sub-Clause	Data
		For USD: SOFR of maturity of 1 month plus 1% For EURO: €STR of maturity of 1 month plus 1% For GBP: SONIA of maturity of 1 month plus 1%
Number of additional paper copies of draft Final Statement	14.11.1(b)	2 (Two)
Forces of nature, the risks of which are allocated to the Contractor	17.2(d)	In accordance to FIDIC Red book 2017
Permitted deductible limits	19.1	insurance required for the Works: <b>USD530,000.00</b> insurance required for liability for breach of professional duty: <b>USD120,000.00</b>  insurance required for injury to persons and damage to property: <b>USD120,000.00</b>  insurance required for injury to employees: <b>USD120,000.00</b>  other insurances required by Laws and by local practice:
Additional amount to be insured (as a percentage of the replacement value, if less or more than 15%)	19.2.1(b)	5%
List of Exceptional Risks which shall not be excluded from the insurance cover for the Works	19.2.1(iv)	N/A
Extent of insurance required for Goods	19.2.2	<b>NA</b>
Amount of insurance required for Goods		NA
amount of insurance required for liability for breach of professional duty	19.2.3(a)	
Insurance required against liability for fitness for purpose	19.2.3(b)	Yes
Period of insurance required for liability for breach of professional duty	19.2.3	28days
Amount of insurance required for injury to persons and damage to property	19.2.4	(a) The minimum cover for insurance of property is: USD295,000.00 (b) The minimum cover for personal injury or death insurance is USD180,000.00
Other insurances required by Laws and by local practice (give details)		
Time for appointment of DAAB	21.1	42 days after signature by both parties of the Contract Agreement

Conditions	Sub-Clause	Data
The DAAB shall be comprised of	21.1	Three Members
List of proposed members of DAAB	21.1	<p>Proposed by Employer [Attach CVs to the bidding document and the Contract]</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>Proposed by Contractor [Attach CVs to the Contract]</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p>
Appointment (if not agreed) to be made by	21.2	The Chairman of the Malawi Engineering Institution.
Rules of arbitration	21.6(a)	Any dispute, controversy, or claim arising out of or relating to this Contract, or breach, termination, or invalidity thereof, shall be settled by arbitration in accordance with the <b>Malawi Engineering Institution Arbitration Rules</b> as at present in force.
Place of arbitration	21.6(a)	<b>Arusha, Tanzania.</b>



**Table: Summary of Sections (if any)**

Description of parts of the Works that shall be designated a Section for the purposes of the Contract (Sub-Clause 1.1.73)	Value: Percentage* of Accepted Contract Amount (Sub-Clause 14.9)	Time for Completion (Sub-Clause 1.1.84)	Delay Damages (Sub-Clause 8.8)

\*These percentages shall also be applied to each half of the Retention Money under Sub-Clause 14.9

## Part B - Specific Provisions

<b>Sub-Clause 1.1.10 Contract</b>	“the Contractor’s Proposal” is deleted.
<b>Sub-Clause 1.1.49 Laws</b>	The Sub-Clause is replaced with: “ <b>Laws</b> ” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.”
<b>Sub-Clause 1.1.74 Site</b>	The Sub-Clause is replaced with: “ <b>Site</b> ” means the places where the Permanent Works are to be executed, including storage and working area, and to which Plant and Materials are to be delivered, and any other places specified in the Contract as forming part of the Site.”
<b>Sub-Clause 1.1.77 Statement</b>	On the second line after “Payment Certificate under...”, add “Sub-Clause 14.2.1 [Advance Payment Guarantee] (if applicable),”.
<b>Sub-Clause 1.1.81 Tender</b>	“the Contractor’s Proposal” is deleted.
<b>Sub-Clause 1.1.89 to 1.1.91 are added after Sub-Clause 1.1.88</b>	
<b>Sub-Clause 1.1 89 Bank</b>	“ <b>Bank</b> ” means the financing institution (if any) named in the Contract Data.
<b>Sub-Clause 1.1.90 Borrower</b>	“ <b>Borrower</b> ” means the person (if any) named as the borrower in the Contract Data.
<b>Sub-Clause 1.1.91 ES</b>	“ <b>ES</b> ” means Environmental and Social (including Sexual Exploitation and Assault (SEA)).

**Sub-Clause 1.1.92  
Sexual Exploitation and  
Abuse (SEA), and Sexual  
Harassment (SH)**

**“Sexual Exploitation and Abuse” “(SEA)”** and Sexual Harassment (HS) mean 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; and

**“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.

**Sub-Clause 1.2  
Interpretation**

Sub-paragraph (a) is replaced with the following:

(a) “Words indicating one gender include all genders;

“he/she” is replaced with: “it”;

“him/her” is replaced with “it”;

“his” and “his/her” are replaced with: “its”;

“himself/herself” are replaced with: “itself”.

Further, “and” is deleted from the end of sub-paragraph (i) and added at the end of sub-paragraph (j).

sub-paragraph (k) is added:

(k) “The word “tender” is synonymous with “bid” or “proposal”, the word tenderer with “bidder” or “proposer” and the words “tender documents” with “request for bids documents” or “request for proposal documents”, as applicable.”

<b>Sub-Clause 1.5 Priority of Documents</b>	<p>Replace the sequence of Priority Documents with the following:</p> <ul style="list-style-type: none"> <li>(a) the Contract Agreement;</li> <li>(b) Minutes of Negotiation (if any)</li> <li>(c) the Letter of Acceptance;</li> <li>(d) the Letter of Bid;</li> <li>(e) Appendix to Bid</li> <li>(f) the Particular Conditions Part A – Contract Data;</li> <li>(g) the Particular Conditions Part B – Special Provisions;</li> <li>(h) the Particular Conditions Part C- Fraud and Corruption;</li> <li>(i) the Particular Conditions Part D- Environmental and Social (ES) Metrics for Progress Reports</li> <li>(j) the General Conditions;</li> <li>(k) the Specification; Part B: Particular Specifications;</li> <li>(l) the Specification; Part A: Standard Specifications;</li> <li>(m) the Drawings;</li> <li>(n) Bill of Quantity and other Schedules;</li> <li>(o) the JV Undertaking (if the Contractor is a JV);</li> <li>(p) any other documents forming part of the Contract</li> </ul>
<b>Sub-Clause 1.6 Contract Agreement</b>	<p>The last paragraph is replaced with:</p> <p><i>“If the Contractor comprises a JV, the authorised representative of the JV shall sign the Contract Agreement in accordance with sub –clauses 1.14 (Joint and Several Liability).”</i></p>
<b>Sub-Clause 1.12 Confidentiality</b>	<p>The following is added at the end of the second paragraph:</p> <p><i>“The Contractor shall be permitted to disclose information required to establish its qualifications to compete for other projects.”</i></p> <p><i>“or” at the end of (b) is deleted.</i></p> <p><i>“or” at the end of (c) is added.</i></p> <p>The following is then added as (d): <i>“is being provided to the Bank .”</i></p>
<b>Sub-Clause 1.13 Compliance with Laws</b>	<p>Add the following at the end of (d):</p> <p>(e) 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>
<b>Sub-Clause 1.17 Inspections &amp; Audit by the Bank</b>	<p>The following Sub-Clause is added after Sub-Clause 1.16:</p> <p><i>“Pursuant to paragraph 2.2 e. of Particular Conditions - Part C- Fraud and Corruption, the Contractor shall permit and shall cause its agents (where declared or not),</i></p>

subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Contractor's and its Subcontractors' and subconsultants' attention is drawn to Sub-Clause 15.8 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)."

**Sub-Clause 2.4**  
**Employer's Financial**  
**Arrangements**

The first paragraph is replaced with:

"The Employer shall submit, before the Commencement Date, reasonable evidence that financial arrangements have been made for financing the Employer's obligations under the Contract."

The following sub-paragraph is added at the end of Sub-Clause 2.4:

"In addition, if the Bank has notified to the Borrower that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Engineer, within 7 days of the Borrower having received the suspension notification from the Bank. If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide reasonable evidence in its notice of the extent to which such funds will be available."

**Sub-Clause 3.1**  
**The Engineer**

The following is added at the end of the first sub-paragraph:

"The Engineer's staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties."

**Sub-Clause 3.2**  
**Engineer's Duties and**  
**Authority**

The Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions:

- (a) Sub-Clause 13.1: Right to vary - instructing a variation, except;
  - (i) in an emergency situation as determined by the Engineer; or
  - (ii) (if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.
- (b) Sub-Clause 13.2 (Value Engineering): stating consent or otherwise to a value engineering proposal submitted by the Contractor in accordance with Sub-Clause 13.2.

Notwithstanding the obligation, as set out above, to obtain consent in writing, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, it may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of consent 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, and EOT if any, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

**Sub-Clause 3.3  
Engineer's  
Representative**

The following is added at the end of Sub-Clause 3.3:

"The Engineer shall obtain the consent of the Employer before appointing or replacing an Engineer's Representative."

**Sub-Clause 3.4  
Delegation by the  
Engineer**

The following is added at the end of the second paragraph:

"If any assistants are not fluent in this language, the Engineer shall make competent interpreters available during all working hours, in a number sufficient for those assistants to properly perform their assigned duties and/or exercise their delegated authority."

**Sub-Clause 3.6  
Replacement of the  
Engineer**

In the first paragraph, "42 days" is replaced with: "21 days";  
In the third para, "shall" is replaced with: "should".

**Sub-Clause 4.1**  
**Contractor's**  
**Obligations**

**General**

The following is inserted after the paragraph "The Contractor shall provide the Plant (and spare parts, if any) ...":

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

The following is inserted after the paragraph "The Contractor shall, whenever required by the Engineer...":

The Contractor shall not carry out mobilization to Site (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits) 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.

The Contractor shall submit, to the Engineer for Review 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.

The C-ESMP shall be part of the Contractor's Documents. The procedures for Review of the C-ESMP and its updates shall be as described in Sub-Clause 4.4.1 [*Preparation and Review*].

The following is added as (g); (g) and (h) of the Sub-Clause are then renumbered as (h) and (i) respectively.

(g) if so stated in the Specification, the Contractor shall:

- (i) design structural elements of the Works taking into account climate change considerations; and
- (ii) apply the concept of universal access (the concept of universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances).

- (iii) consider the environmental risks of the public's potential exposure to operational accidents or natural hazards, including extreme weather events; and
- (iv) any other requirement stated in the specification."

The following is added at the end of the Sub-Clause:

"The Contractor shall provide relevant contract- related information, as the Employer and/or Engineer may reasonably request to conduct Stakeholder engagements. "Stakeholder" refers to individuals or groups who:

- (i) are affected or likely to be affected by the Contract; and
- (ii) may have an interest in the Contract.

The Contractor shall also directly participate in Stakeholder engagements, as the Employer and/or Engineer may reasonably request."

#### **Sub-Clause 4.2**

#### **Performance Security and ES Performance Security**

The first paragraph is replaced with:

"The Contractor shall obtain (at its cost) a Performance Security for proper performance and, if applicable, an Environmental and Social (ES) Performance Security for compliance with the Contractor's ES obligations, in the amounts stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If amounts are not stated in the Contract Data, this Sub-Clause shall not apply. The Performance Security shall be issued by a reputable bank or financial institution in the form annexed to the Particular Conditions. In the event that the Performance Security is issued by a foreign bank or financial institution, the bank or financial institution issuing the Performance Security shall have a correspondent bank or financial institution located/operating in Malawi and recognized by the Central Bank of Malawi. The correspondent bank or financial institution will be required to validate the bank guarantee issued by the bank or financial institution outside Malawi".

In the following Sub-Clauses of the General Conditions, the term "Performance Security" is replaced with: "Performance Security and, if applicable, an Environmental and Social (ES) Performance Security":

2.1- Right of Access to the Site;

14.2- Advance Payment;



- 14.6- Issue of IPC;
- 14.12- Discharge;
- 14.13- Issue of FPC;
- 14.14 Cessation of Employer's Liability;
- 15.2- Termination for Contractor's Default;
- 15.5- Termination for Employer's Convenience.

**Sub-Clause 4.2.1****Contractor's obligations**

The first paragraph is replaced with:

"The Contractor shall deliver the Performance Security and, if applicable, an ES 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 reputable bank or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer. The ES Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form attached with this document and as stipulated by the Employer in the Contract Data, or in another form approved by the Employer."

Thereafter, throughout Sub-Clause 4.2 "Performance Security" is replaced with: "Performance Security and, if applicable, ES Performance Security."

**Sub-Clause 4.2.2****Claims under the Performance Security**

The first paragraph is replaced in its entirety with: "The Employer shall not make a claim under the Performance Security, except for amounts for which the Employer is entitled under the Contract."

**Sub-Clause 4.2.3****Return of Performance Security**

In sub-paragraph (a) "21 days" is replaced with: "28 days".

**Sub-Clause 4.3****Contractor's Representative**

The following is added at the end of the last paragraph: "If any of these persons is not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer."

**Sub-Clause 4.6  
Co-operation**

On the second-last line of the first paragraph before “Contractor’s”, add “of the”.

The following is added after the first paragraph:

“The Contractor shall also, as stated in the Specification or as instructed by the Engineer, cooperate with and allow appropriate opportunities for the Employer’s Personnel to conduct any environmental and social assessment”.

**Sub-Clause 4.7  
Setting out**

In the second bullet-point of sub-paragraph (b) of Sub-Clause 4.7.3:

- before “if the items of reference”, add: “when examining the items of reference within the period stated in sub-paragraph (a) of Sub-Clause 4.7.2”,
- On the second and third lines, the following is deleted: “and the contractor’s Notice is given after the period stated in sub-paragraph (a) of Sub-Clause 4.7.2”.

**Sub-Clause 4.8  
Health and  
Obligations**

**Safety**

The following are included after deleting “and” at the end of (f) and replacing “.” with “;” at the end of (g):

“

(h) provide health and safety training of Contractor’s Personnel as appropriate and maintain training records;

(i) actively engage the Contractor’s Personnel in promoting understanding, and methods for, implementation of health and safety requirements, as well as in providing information to Contractor’s Personnel, training on occupational safety and health, and provision of personal protective equipment without expense to the Contractor’s Personnel;

(j) put in place workplace processes for Contractor’s Personnel to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.

(k) Contractor’s Personnel who remove themselves from such work situations shall not be required to return to work until necessary remedial action to correct the situation has been taken. Contractor’s Personnel shall not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal;

(l) subject to Sub-Clause 4.6, collaborate with the entities and Personnel under paragraph (a) , (b) and

(c) of Sub-Clause 4.6, in applying the health and safety requirements. This is without prejudice to the responsibility of the relevant entities for the health and safety of their own personnel; and

(m) establish and implement a system for regular (not less than six-monthly) review of health and safety performance and the working environment.”

The second and third paragraphs are replaced with the following:

“Subject to Sub-Clause 4.1, the Contractor shall submit to the Engineer for Review a health and safety manual which has been specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works. The procedures for Review of the health and safety manual and its updates shall be as described in Sub-Clause 4.4.1 [*Preparation and Review*].

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws.

The health and safety manual shall set out all the health and safety requirements under the Contract,

(1) which shall include at a minimum:

- (i) the procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents;
- (ii) details of the training to be provided, records to be kept;
- (iii) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning);
- (iv) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases,

- (v) the measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the execution of the Works, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labour;
- (vi) the policies and procedures on the management and quality of accommodation and welfare facilities if such accommodation and welfare facilities are provided by the Contractor in accordance with Sub-Clause 6.6; and

(2) any other requirements stated in the Specification.

The paragraph starting with: “In addition to the reporting requirement of...” is deleted and replaced with the addition to GC Sub-Clause 4.20 in Sub-Clause 4.20 of the Special Provisions.

#### **Sub-Clause 4.15 Access Route**

The following is added at the end of Sub-Clause 4.15:

“The Contractor shall take all necessary safety measures to avoid the occurrence of incidents and injuries to any third party associated with the use of Contractor’s Equipment on public roads or other public infrastructure.

The Contractor shall monitor road safety incidents and accidents to identify negative safety issues, and establish and implement necessary measures to resolve them.”

#### **Sub-Clause 4.18 Protection of the Environment**

Sub-Clause 4.18 Protection of the Environment is replaced with:

“The Contractor shall take all necessary measures to:

- (a) protect the environment (both on and off the Site); and
- (b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor’s operations and/ or activities.

The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor’s activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable Laws.

In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Engineer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Engineer."

**Sub-Clause 4.20  
Progress Reports**

Replace "4.20 (g) with: "the Environmental and Social (ES) metrics set out in Particular Conditions - Part D"

The following is added at the end of the Sub-Clause:

"In addition to the reporting requirement of this subparagraph (g) of Sub-Clause 4.20 [*Progress Reports*] the Contractor shall inform the Engineer immediately of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Engineer of any such incident or accident on the Subcontractors' or suppliers' premises relating to the Works which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Engineer within the timeframe agreed with the Engineer.

The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause."

**Sub-Clause 4.21  
Security of the Site**

Sub-Clause 4.21 Security of the Site is replaced with:

**"Sub-Clause 4.21 Security of the Site**

The Contractor shall be responsible for the security of the Site, and:

- (a) for keeping unauthorised persons off the Site;

- (b) authorised persons shall be limited to the Contractor's Personnel, the Employer's Personnel, and to any other personnel identified as authorised personnel (including the Employer's other contractors on the Site), by a Notice from the Employer or the Engineer to the Contractor.

Subject to Sub-Clause 4.1, the Contractor shall submit for the Engineer's No-objection a security management plan that sets out the security arrangements for the Site.

The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Specification.

The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification."

**Sub-Clause 4.22**  
**Contractor's Operations**  
**on Site**

On the third line of the second paragraph before "4.17", "Sub-Clause" is added.

**Sub-Clause 4.23**  
**Archaeological and**  
**Geological Findings**

The first paragraph is replaced with the following:

"All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall:

- (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings;
- (b) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and

- (c) implement any other action consistent with the requirements of the Specification and relevant Laws.”

**Sub-Clause 4.24****Suppliers (other than Subcontractors)****4.24.1 Forced Labour**

The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage forced labour including trafficked persons as described in Sub-Clause 6.21. If forced labour/trafficking cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

**4.24.2 Child labour**

The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage child labour as described in Sub-Clause 6.22. If child labour cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

**4.24.3 Serious Safety Issues**

The Contractor, including its Subcontractors, shall comply with all applicable safety obligations, including as stated in Sub-Clauses 4.8, 5.1 and 6.7. The Contractor shall also take measures to require its suppliers (other than Subcontractors) to adopt procedures and mitigation measures adequate to address safety issues related to their personnel. If serious safety issues are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

**4.24.4 Obtaining natural resource materials in relation to supplier**

The Contractor shall obtain natural resource materials from suppliers that can demonstrate, through compliance with the applicable verification and/ or certification requirements, that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats such as unsustainably harvested wood products, gravel or sand extraction from river beds or beaches.

If a supplier cannot continue to demonstrate that obtaining such materials is not contributing to the risk of significant



conversion or significant degradation of natural or critical habitats, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to demonstrate that they are not significantly adversely impacting the habitats.

**Sub-Clause 4.25  
Code of Conduct**

The Contractor shall have a Code of Conduct for the Contractor's Personnel.

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.

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.

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.

The Contractor's Management Strategy and Implementation Plans shall include appropriate processes for the Contractor to verify compliance with these obligations.

**Sub-Clause 5.1  
Subcontractors**

The following is added at the beginning of the second paragraph.

"The Contractor shall require that its Subcontractors execute the Works in accordance with the Contract, including complying with the relevant ES requirements and the obligations set out in Sub-Clause 4.25 above.."

The following is added at the end of the last paragraph of Sub-Clause 5.1:

"All subcontracts relating to the Works shall include provisions which entitle the Employer to require the subcontract to be assigned to the Employer under subparagraph (a) of Sub-Clause 15.2.3 [*After Termination*]."



Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.”

**Sub-Clause 5.2.2  
Objection to Nomination**

In sub-paragraph (a), on the first line before “Subcontractor”, “nominated” is added.

In sub-paragraph (c):

“and” is deleted from the end of (i);

“.” at the end of (ii) is replaced with: “, and”.

The following is then added as (iii):

“(iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.2.3 [ *Payment to nominated Subcontractors*].”

**Sub-Clause 6.1  
Engagement of Staff and Labour**

The following paragraphs are added at the end of the Sub-Clause:

The Contractor shall provide the Contractor’s Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor’s Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification. The Contractor’s Personnel shall be informed when any material changes to their terms or conditions of employment occur.

“The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.”

**Sub-Clause 6.2  
Rates of Wages and Conditions of Labour**

The following paragraphs are added at the end of the Sub-Clause:

“The Contractor shall inform the Contractor’s Personnel about:

- (a) any deduction to their payment and the conditions of such deductions in accordance with the applicable Laws or as stated in the Specification; and

- (b) their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force.

The Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

Where required by applicable Laws or as stated in the Specification, the Contractor shall provide the Contractor's Personnel written notice of termination of employment and details of severance payments in a timely manner. The Contractor shall have paid the Contractor's Personnel (either directly or where appropriate for their benefit) all due wages and entitlements including, as applicable, social security benefits and pension contributions, on or before the end of their engagement/ employment."

**Sub-Clause 6.5 Working Hours**

The following is inserted at the end of the Sub-Clause:

"The Contractor shall provide the Contractor's Personnel annual holiday and sick, maternity and family leave, as required by applicable Laws or as stated in the Specification."

**Sub-Clause 6.6 Facilities for Staff and Labour**

The following is added as the last paragraph:

"If stated in the Specification, the Contractor shall give access to or provide services that accommodate the physical, social and cultural needs of the Contractor's Personnel. The Contractor shall also provide similar facilities for the Employer's Personnel as stated in the Specification."

**Sub-Clause 6.7 Health and Safety of Personnel**

In the second paragraph, "The Contractor" is replaced with:

"Except as otherwise stated in the Specification, the Contractor..."

**Sub-Clause 6.9 Contractor's Personnel**

The Sub-Clause is replaced with:

"The Contractor's Personnel (including Key Personnel, if any) shall be appropriately qualified, skilled, experienced and competent in their respective trades or occupations.

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:

- (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).

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 [*Contractor's Representative*] shall apply. In the case of replacement of Key Personnel (if any), Sub-Clause 6.12 [*Key Personnel*] shall apply.

Subject to the requirements in Sub-Clause 4.3 [*Contractor's Representative*] and 6.12 [*Key Personnel*], 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, any Contractor's Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above."

**Sub-Clause 6.12**  
**Key Personnel**

The following is inserted at the end of the last paragraph:

"If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer."

**The following Sub-Clauses 6.13 to 6.28 are added after sub-clause 6.12**

**Sub-Clause 6.13**  
**Foreign Personnel**

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government

permission required for bringing in the Contractor's personnel.

The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country 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.

**Sub-Clause 6.14  
Supply of Foodstuffs**

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

**Sub-Clause 6.15  
Supply of Water**

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

**Sub-Clause 6.16  
Measures against Insect  
and Pest Nuisance**

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

**Sub-Clause 6.17  
Alcoholic Liquor or Drugs**

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

**Sub-Clause 6.18  
Arms and Ammunition**

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

**Sub-Clause 6.19  
Festivals and Religious  
Customs**

The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.

**Sub-Clause 6.20  
Funeral Arrangements**

The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.

**Sub-Clause 6.21  
Forced Labour**

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

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

**Sub-Clause 6.22  
Child Labour**

The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Engineer's consent. The Contractor shall be subject to regular monitoring by the Engineer that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
- (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to

- temperatures, noise or vibration damaging to health;  
or  
(e) under difficult conditions such as work for long hours,  
during the night or in confinement on the premises of  
the employer.

**Sub-Clause 6.23  
Employment Records of  
Workers**

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

**Sub-Clause 6.24  
Workers' Organisations**

In countries where the relevant labour laws recognise workers' rights to form and to join workers' organisations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labour laws substantially restrict workers' organisations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organisations and collective bargaining or alternative mechanisms. Workers' organisations are expected to fairly represent the workers in the workforce.

**Sub-Clause 6.25  
Non-Discrimination and  
Equal Opportunity**

The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the

inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.22).

**Sub-Clause 6.26****Contractor's Personnel  
Grievance Mechanism**

The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in Sub-Clause 6.24, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.

The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.

The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.

The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to such project workers. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.

**Sub-Clause 6.27****Training of Contractor's  
Personnel**

The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA and SH, and health and safety training referred to in Sub-Clause 4.8

As stated in the Specification or as instructed by the Engineer, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel.

The Contractor shall provide training on SEA and SH, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.



**Sub-Clause 6.28****Employment of Local Personnel**

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.

The Employer recognises that certain semi and skilled operations require experience on specific items of equipment but requires the Contractor to give priority to Malawian candidates where these are available and have the required expertise.

The Contractors attention is specifically drawn to the issue of drivers (both for LDVs and Tippers) in respect of which the Government of Malawi considers that adequately trained candidates may be available locally.

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 PCC 6.13.

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.

The Contractor is also required to employ at least 10% of his labour force from the female gender.

Failure to comply with this clause may result in the contract may leads to suspension, until the contractor has fulfilled this requirement. The Employer will not pay for any costs or any claims resulting from the stoppage of the contract due to the Contractor's failure to comply with this clause.

**Sub-Clause 7.3 Inspection**

The following is added in the first paragraph after "Employer's Personnel" "(including the Bank staff or consultants acting on the Bank's behalf, stakeholders and third parties, such as independent experts, local communities, or non-governmental organizations)"

The following is added as (b) (iv):

"(iv) carryout environmental and social audit, and"

**Sub-Clause 7.7****Ownership of Plant and Materials**

The following is added before the first paragraph:

"Except as otherwise provided in the Contract,"

**Sub-Clause 7.9****Overloading of Vehicles**

Add the following new Sub-Clause after Sub-Clause 7.8:

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.



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.

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.

**Sub-Clause 8.1**  
**Commencement of Work**

The Sub- Clause is replaced in its entirety with the following:

“The Engineer shall give a Notice to the Contractor stating the Commencement Date, not less than 14 days before the Commencement Date.

The Notice shall be issued promptly after the Engineer determines the fulfilment of the following conditions:

- (a) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of the Country;
- (b) delivery to the Contractor of reasonable evidence of the Employer’s financial arrangements (under Sub-Clause 2.4 [Employer’s Financial Arrangements]);
- (c) except if otherwise specified in the Contract Data, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works;
- (d) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor;
- (e) constitution of the DAAB in accordance with Sub-Clause 21.1 and Sub-Clause 21.2 as applicable.

Subject to Sub-Clause 4.1 on the Management Strategies and Implementation Plans and the C-ESMP and Sub-Clause 4.8 on the health and safety manual, the Contractor, shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.”

<b>Sub-Clause 11.7 Right of Access after Taking Over</b>	<p>In the second paragraph, “Whenever the Contractor intends to access any part of the Works during the relevant DNP:” is replaced with:</p> <p>“Whenever, until the date 28 days after issue of the Performance Certificate, the Contractor intends to access any part of the Works:”</p>
<b>Sub-Clause 13.3.1 Variation by Instruction</b>	<p>Subparagraph 13.3.1 (a) is replaced with: “a description of the varied work performed or to be performed, including details of the resources and methods adopted or to be adopted by the Contractor, and sufficient ES information to enable an evaluation of ES risks and impacts;”</p>
<b>Sub-Clause 13.4 Provisional Sums</b>	<p>The following is inserted as the penultimate paragraph:</p> <p>“The Provisional Sum shall be used to cover the Employer’s share of the DAAB members’ fees and expenses, in accordance with Clause 21. No prior instruction of the Engineer shall be required with respect to the work of the DAAB. The Contractor shall submit the DAAB members’ invoices and satisfactory evidence of having paid 100% of such invoices as part of the substantiation of those Statements submitted under Sub-Clause 14.3.</p>
<b>Sub-Clause 13.6 Adjustments for Changes in Laws</b>	<p>The following paragraph is added at the end of the Sub-Clause:</p> <p>“Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the Table of Adjustment Data in accordance with the provisions of Sub-Clause 13.7 [Adjustments for Changes in Cost].”</p>
<b>Sub-Clause 13.7 Adjustments for changes in Cost</b>	<p>Add the following paragraph at the end only if Contract Data specifies adjustment shall apply. Otherwise, prices shall be fixed during the duration of the Contract:</p> <p>“Schedule of Cost Indexation: Formula for Adjustment for Change in Cost:</p> $P_n = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{M_n}{M_o} + \dots \text{ where:}$ <p>“P<sub>n</sub>” is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period “n”, this period being a month unless otherwise stated in the Contract Data;</p>

“a” is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

“b”, “c”, “d”, ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

“Ln”, “En”, “Mn”, ... are the current cost indices or reference prices for period “n”, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and

“Lo”, “Eo”, “Mo”, ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table)..

If the currency in which the Contract price is expressed is different from the currency of the country of origin of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall be:  $Z_0 / Z_1$ , where,

$Z_0$  = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and

$Z_1$  = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Date of Adjustment.

#### **Sub-Clause 14.1 The Contract Price**

***[Note to the Employer: include one of the following two alternative texts as applicable]***

The following is added at the end of the Sub-Clause:

#### ***[Alternative 1]***

“Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.”

**[Alternative 2]**

“Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefore, imported by the Contractor for the sole purpose of executing the Contract shall be temporarily exempt from the payment of import duties and taxes upon initial importation, provided the Contractor shall post with the customs authorities at the port of entry an approved export bond or bank guarantee, valid until the Time for Completion plus six months, in an amount equal to the full import duties and taxes which would be payable on the assessed imported value of such Contractor's Equipment and spare parts, and callable in the event the Contractor's Equipment is not exported from the Country on completion of the Contract. A copy of the bond or bank guarantee endorsed by the customs authorities shall be provided by the Contractor to the Employer upon the importation of individual items of Contractor's Equipment and spare parts. Upon export of individual items of Contractor's Equipment or spare parts, or upon the completion of the Contract, the Contractor shall prepare, for approval by the customs authorities, an assessment of the residual value of the Contractor's Equipment and spare part to be exported, based on the depreciation scale (s) and other criteria used by the customs authorities for such purposes under the provisions of the applicable Laws. Import duties and taxes shall be due and payable to the customs authorities by the Contractor on (a) the difference between the initial imported value and the residual value of the Contractor's Equipment and spare parts to exported; and (b) on the initial imported value of the Contractor's Equipment and spare parts remaining in the Country after completion of the Contract. Upon payment of such dues within 28 days of being invoiced, the bond or bank guarantee shall be reduced or released accordingly; otherwise the security shall be called in the full amount remaining.”

**Sub-Clause 14.2.1****Advance Payment  
Guarantee**

The first paragraph is replaced with:

“The Contractor shall obtain (at the Contractor's cost) an Advance Payment Guarantee in amounts and currencies equal to the advance payment, and shall submit it to the Employer with a copy to the Engineer. This guarantee shall be issued by reputable bank or financial institution selected by the Contractor and shall be based on the sample form annexed to the Particular Conditions or in another form agreed by the Employer (but such agreement shall not relieve the Contractor from any obligation under this Sub-Clause).”

**Sub-Clause 14.3****Application for Interim  
Payment**

The following is inserted at the end of (vi) after: *[Agreement or Determination]*: “any reimbursement due to the Contractor under the Dispute Avoidance/ Adjudication Agreement.

(Appendix General Conditions of Dispute Avoidance/Adjudication Agreement)."

**Sub-Clause 14.6.2**  
**Withholding (amounts in)**  
**an IPC**

"and/or" from subparagraph (b) is deleted.

The following is then added as subparagraph (c) and subparagraph (c) of the Sub-Clause is renumbered as (d):

"(c) if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Engineer, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:

- (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;
- (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;
- (iii) failure to implement the C-ESMP e.g. failure to provide required training or sensitization;
- (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities;
- (v) failure to submit ES report/s (as described in Particular Conditions - Part D), or failure to submit such reports in a timely manner;
- (vi) failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s)."

**Sub-Clause 14.7**  
**Payment**

At the end of sub-paragraph (b): "and" is replaced with "or" and the following inserted as (iii):

“(iii) at a time when the Bank’s loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and”

At the end of sub-paragraph (c): “.” is replaced with “,” and the following inserted:

“or, at a time when the Bank’s loan or credit (from which part of the payments to the Contractor is being made) is suspended the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor].”

#### **Sub-Clause 14.9**

#### **Release of Retention Money**

The following is added at the end of Sub-Clause 14.9:

“Unless otherwise stated in the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by the Employer and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance Security and, if applicable, an ES Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release after the latest of the expiry dates of the Defects Notification Periods. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

If the Performance Security and, if applicable, an ES Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under them when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security and, if applicable, an ES Performance Security, when the Taking-Over Certificate is issued is less than half of the Retention

Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if applicable, an ES Performance Security.”

**Sub-Clause 14.12  
Discharge**

On the seventh line of the first paragraph, “Sub-Clause 21.6 [Arbitration]” is replaced with: “Clause 21 [*Disputes and Arbitration*]”.

**Sub-Clause 14.15  
Currencies of Payment**

Throughout Sub-Clause 14.15, “Contract Data” is replaced with: “Schedule of Payment Currencies”.

**Sub-Clause 15.1  
Notice to Correct**

“and” is deleted from (b) and

“.” is replaced by: “; and” in (c).

The following is then added as (d)

“(d) specify the time within which the Contractor shall respond to the Notice to Correct.”

In the third para., “shall immediately respond” is replaced with: “shall respond within the time specified in (d)”. Further, in the third para., “to comply with the time specified in the Notice to Correct.” is replaced with: “to comply with the time specified in (c).”

**Sub-Clause 15.2.1  
Notice**

Sub-paragraph (h) is replaced with: “based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Particular Conditions - Part C- Fraud and Corruption, in competing for or in executing the Contract.”

**Sub-Clause 15.8  
Fraud and Corruption**

The following new Sub-Clause is added:

“15.8.1 The Bank requires compliance with the Integrity Framework comprising the African Development Bank Group’s Sanctions Procedures, the Bank’s Whistleblowing and Complaints Policy, the Bank’s Procurement Policy under the Procurement Framework and any other applicable Policies and Procedures including their updates, as set forth in Particular Conditions - Part C- Fraud and Corruption.

15.8.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect



to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.”

**Sub-Clause 15.9**  
**Eligibility**

**The following new Sub-Clause is added:**

“The Contractor and its Subcontractor or Suppliers shall have the nationality of an eligible country of the Bank in accordance with the Bank’s Procurement Policy for the Bank Group Funded Operation described under the Bank’s Procurement Framework, and as listed in Section V, Eligible Countries. The Contractor shall be deemed to have the nationality of a country if the Contractor is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services. All materials, equipment and services to be supplied under the Contract shall have their country of origin in an eligible country of the Bank in accordance with the Bank’s Procurement Policy for Bank Group Funded Operations described under the Bank’s Procurement Framework, and as set forth in Particular Conditions -Part E-Section V, Eligible Countries.”

The following paragraph is inserted after the first paragraph:

**Sub-Clause 16.1**  
**Suspension by Contractor**

“Notwithstanding the above, if the Bank has suspended disbursements under the loan or credit from which payments to the Contractor are being made, in whole or in part, for the execution of the Works, and no alternative funds are available as provided for in Sub-Clause 2.4 [Employer’s Financial Arrangements], the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than 7 days after the Borrower having received the suspension notification from the Bank.”

**Sub-Clause 16.2.1**  
**Notice**

Sub-paragraph (j) is deleted in its entirety.

At the end of sub-paragraph (i): “; or” is replaced with: “.”

sub-paragraph (f) is replaced with:

“(f) the Contractor does not receive a Notice of the Commencement Date under Sub-Clause 8.1



[Commencement of Works] within 180 days after receiving the Letter of Acceptance, for reasons not attributable to the Contractor.”

**Sub-Clause 16.2.2  
Termination**

The following is added at the end of Sub-Clause 16.2.2:

“In the event the Bank suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work under Sub-Clause 16.1 above, or (ii) terminate the Contract by giving notice to the Employer, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.”

**Sub-Clause 16.3  
Contractor's Obligations  
After Termination**

*[If the Employer has made available any Employer- Supplied Materials and/or Employer's Equipment in accordance with Sub-Clause 2.6, include the following:]*

“and” is deleted from the end of sub-paragraph (b), sub-paragraph (c) deleted and the following added:

- (c) deliver to the Engineer all Employer- Supplied Materials and/or Employer's Equipment made available to the Contractor in accordance with Sub-Clause 2.6 *[Employer-Supplied materials and Employer's Equipment]*; and
- (d) remove all other Goods from the Site, except as necessary for safety, and leave the Site.”

**Sub-Clause 17.1  
Responsibility for Care of  
the Works**

On the fourth and fifth lines of the first paragraph, replace “Date of Completion of the Works” with “issue of the Taking-Over Certificate for the Works”.

*[If Employer- Supplied Materials are listed in the Specification for the Contractor's use in the execution of Works, include the following provision. See also Sub-Clause 2.6 [Employer-Supplied Materials and Employer's Equipment]]*

After the two instances of “Goods” in the last paragraph, the following is added: “Employer- Supplied Materials”.

*[If Employer's Equipment are listed in the Employer's Requirements for the Contractor's use in the execution of*

*Works, include the following provision. See also Sub-Clause 2.6 [Employer-Supplied Materials and Employer's Equipment]]*

After the two instances of "Goods" in the last paragraph, the following is added: ", Employer's Equipment,".

**Sub-Clause 17.3  
Intellectual and Industrial  
Property Rights**

On the first line of the second paragraph, replace "notice" is replaced with "a Notice".

**Sub-Clause 17.7  
Use of Employer's  
Accommodation/Facilities**

The following Sub-Clause is added as 17.7:

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

If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at its own cost, rectify the loss or damage to the satisfaction of the Engineer."

**Sub-Clause 18.1  
Exceptional Events**

Sub-paragraph (c) is substituted with:

"(c) riot, commotion, disorder or sabotage by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors;"

**Sub-Clause 18.4  
Consequences of an  
Exceptional Event**

The following is added at the end of sub-paragraph (b) after deleting the ".":

", including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 19.2 [ Insurance to be provided by the Contractor]."

**Sub-Clause 18.5  
Optional Termination**

In sub-paragraph (c), "and necessarily" is inserted after "'was reasonably".

**Sub-Clause 19.1  
General Requirements**

The following paragraphs are added after the first:

"Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with terms (if any) agreed by both Parties before the date of the Letter of Acceptance.

This agreement of terms shall take precedence over the provisions of this Clause."

**Sub-Clause 19.2**  
**insurance to be provided**  
**by the Contractor**

The following is inserted as the first sentence in Sub-Clause 19.2:

"The Contractor shall be entitled to place all insurances relating to the Contract (including, but not limited to the insurance referred to Clause 19) with insurers from any eligible source country."

**Sub-Clause 19.2.1**  
**The Works**

On the last line of the second paragraph, "Clause 12 [*Tests after completion*]" is deleted.

**Sub-Clause 19.2.5**  
**Injury to employees**

The second paragraph is replaced with:

"The Employer and the Engineer shall also be indemnified under the policy of insurance, against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel."

**Sub-Clause 20.1**  
**Claims**

In a): "any additional payment" is replaced with "payment".

**Sub-Clause 20.2**  
**Claims for Payment**  
**and/or EOT**

The first paragraph is replaced with:

"If either Party considers that it is entitled to claim under 20.1 (a) or (b), the following claim procedure shall apply:"

**Sub-Clause 21.1**  
**Constitution of the DAAB**

In the second paragraph, at the end of the first sentence after deleting: ".", the following is added: ", each of whom shall meet the criteria set forth in Sub-Clause 3.3 of Appendix-General Conditions of Dispute Avoidance/ Adjudication Agreement."

After the second paragraph insert the following paragraph: "If the Contract is with a foreign Contractor, the DAAB members

shall not have the same nationality as the Employer or the Contractor.”

**Sub-Clause 21.2**  
**Failure to Appoint DAAB**  
**Member (s)**

For both (a) and (b): “by the date stated in the first paragraph of Sub-Clause 21.1 [*Constitution of the DAAB*]” is replaced with: “within 42 days from the date the Contract is signed by both Parties”

**Sub-Clause 21.6**  
**Arbitration**

In the first paragraph, delete starting from: “international arbitration” up to the end of (c), and replace with the following:

“arbitration. Arbitration shall be conducted as follows:

- (a) if the contract is with foreign contractors, unless otherwise specified in the Contract Data; the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce; by one or three arbitrators appointed in accordance with these Rules. The place of arbitration shall be the neutral location specified in the Contract Data; and the arbitration shall be conducted in the ruling language defined in Sub-Clause 1.4 [Law and Language].
- (b) If the Contract is with domestic contractors, arbitration with proceedings conducted in accordance with the laws of the Employer’s country.”

## Appendix- General Conditions of Dispute Avoidance / Adjudication Agreement

**Title** “General Conditions of Dispute Avoidance/Adjudication Agreement” is replaced with “General Conditions of DAAB Agreement”.

### 1. Definitions

Sub-Clause 1.2: In both the first and third lines, “DAA Agreement” is replaced with “DAAB Agreement”.

Sub-Clause 1.3:

- In the first line, “Dispute Avoidance/Adjudication Agreement” or “DAA Agreement” means” is replaced with:
- “DAAB Agreement” is as defined under the Contract and is”.
- In the first line of sub-paragraph (c), “DAA Agreement” is replaced with “DAAB Agreement”.
- In sub-paragraph (c)(ii), “chairman” is replaced with “chairperson”.

Sub-Clause 1.3 “DAAB Activities” is replaced with Sub-Clause 1.4 “DAAB Activities” and the subsequent Sub- Clauses under Clause 1 “Definitions” renumbered:

Sub-Clause 1.7 to 12: Replace all instances of “DAA Agreement” with “DAAB Agreement”.

In Sub-Clause 1.8 a(i):” authorised representative of the contractor or of the Employer” is replaced with: “Contractor’s Representative or authorised representative of the Employer”.

Sub-Clause 2.2 is deleted in its entirety.

### 2. General provisions

### 3. Warranties

Sub-Clause 3.3 is deleted and replaced with the following:

“When appointing the DAAB Member, each Party relies on the DAAB Member’s representations, that he/she;

- a) has at least a bachelor's degree in relevant disciplines such as law, engineering, construction management or contract management;
- b) has at least ten years of experience in contract administration/management and dispute resolution, out of which at least five years of experience as an arbitrator or adjudicator in construction-related disputes;
- c) has received formal training as an adjudicator from an internationally recognized organization;
- d) has experience and/or is knowledgeable in the type of work which the Contractor is to carry out under the Contract;
- e) has experience in the interpretation of construction and/or engineering contract documents;
- f) has familiarity with the forms of contract published by FIDIC since 1999, and an understanding of the dispute resolution procedures contained therein; and
- g) is fluent in the language for communications stated in the Contract Data (or the language as agreed between the Parties and the DAAB)."

**7. Confidentiality**

In Sub-Clause 7.3: "or" is deleted after sub-paragraph (b), and the following added:

"or (d) is being provided to the Bank."

**9. Fees and Expenses**

In Sub-Clause 9.1 (c): "business class or equivalent" is replaced with: "in less than first class".

In Sub-Clause 9.4: "and air fares" and "other" are deleted from the first and second sentences respectively.

**10. Resignation  
Termination**

& In Sub-Clause 10.3: "the DAA Agreement" is replaced with: "a DAAB member's DAAB Agreement".

**Annex- DAAB Procedural Rules**

Rule 4.2 On the fourth line, "chairman" is replaced with "chairperson".

Rule 8.3 On the sixth line, "chairman" is replaced with "chairperson".

**Form of Dispute Avoidance/Adjudication Agreement**

All instances of "DAA Agreement" are replaced with: "DAAB Agreement".

In C (b): "chairman" is replaced with "chairperson".

## Appendix- General Conditions of Dispute Avoidance / Adjudication Agreement

**Title** “General Conditions of Dispute Avoidance/Adjudication Agreement” is replaced with “General Conditions of DAAB Agreement”.

### 1. Definitions

Sub-Clause 1.2: In both the first and third lines, “DAA Agreement” is replaced with “DAAB Agreement”.

Sub-Clause 1.3:

- In the first line, “Dispute Avoidance/Adjudication Agreement” or “DAA Agreement” means” is replaced with:
- “DAAB Agreement” is as defined under the Contract and is”.
- In the first line of sub-paragraph (c), “DAA Agreement” is replaced with “DAAB Agreement”.
- In sub-paragraph (c)(ii), “chairman” is replaced with “chairperson”.

Sub-Clause 1.3 “DAAB Activities” is replaced with Sub-Clause 1.4 “DAAB Activities” and the subsequent Sub- Clauses under Clause 1 “Definitions” renumbered:

Sub-Clause 1.7 to 12: Replace all instances of “DAA Agreement” with “DAAB Agreement”.

In Sub-Clause 1.8 a(i):” authorised representative of the contractor or of the Employer” is replaced with: “Contractor’s Representative or authorised representative of the Employer”.

Sub-Clause 2.2 is deleted in its entirety.

### 2. General provisions

#### 4. Warranties

Sub-Clause 3.3 is deleted and replaced with the following:

“When appointing the DAAB Member, each Party relies on the DAAB Member’s representations, that he/she;

- h) has at least a bachelor's degree in relevant disciplines such as law, engineering, construction management or contract management;
- i) has at least ten years of experience in contract administration/management and dispute resolution, out of which at least five years of experience as an arbitrator or adjudicator in construction-related disputes;
- j) has received formal training as an adjudicator from an internationally recognized organization;
- k) has experience and/or is knowledgeable in the type of work which the Contractor is to carry out under the Contract;
- l) has experience in the interpretation of construction and/or engineering contract documents;
- m) has familiarity with the forms of contract published by FIDIC since 1999, and an understanding of the dispute resolution procedures contained therein; and
- n) is fluent in the language for communications stated in the Contract Data (or the language as agreed between the Parties and the DAAB)."

**7. Confidentiality**

In Sub-Clause 7.3: "or" is deleted after sub-paragraph (b), and the following added:

"or (d) is being provided to the Bank."

**9. Fees and Expenses**

In Sub-Clause 9.1 (c): "business class or equivalent" is replaced with: "in less than first class".

In Sub-Clause 9.4: "and air fares" and "other" are deleted from the first and second sentences respectively.

**11. Resignation  
Termination**

& In Sub-Clause 10.3: "the DAA Agreement" is replaced with: "a DAAB member's DAAB Agreement".

**Annex- DAAB Procedural Rules**

Rule 4.2 On the fourth line, "chairman" is replaced with "chairperson".

Rule 8.3 On the sixth line, "chairman" is replaced with "chairperson".

**Form of Dispute Avoidance/Adjudication Agreement**

All instances of "DAA Agreement" are replaced with: "DAAB Agreement".

In C (b): "chairman" is replaced with "chairperson".



## Part B - Specific Provisions

<b>Sub-Clause 1.1.10 Contract</b>	“the Contractor’s Proposal” is deleted.
<b>Sub-Clause 1.1.49 Laws</b>	The Sub-Clause is replaced with: “ <b>Laws</b> ” means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.”
<b>Sub-Clause 1.1.74 Site</b>	The Sub-Clause is replaced with: “ <b>Site</b> ” means the places where the Permanent Works are to be executed, including storage and working area, and to which Plant and Materials are to be delivered, and any other places specified in the Contract as forming part of the Site.”
<b>Sub-Clause 1.1.77 Statement</b>	On the second line after “Payment Certificate under...”, add “Sub-Clause 14.2.1 [Advance Payment Guarantee] (if applicable),”.
<b>Sub-Clause 1.1.81 Tender</b>	“the Contractor’s Proposal” is deleted.
<b>Sub-Clause 1.1.89 to 1.1.91 are added after Sub-Clause 1.1.88</b>	
<b>Sub-Clause 1.1 89 Bank</b>	“ <b>Bank</b> ” means the financing institution (if any) named in the Contract Data.
<b>Sub-Clause 1.1.90 Borrower</b>	“ <b>Borrower</b> ” means the person (if any) named as the borrower in the Contract Data.
<b>Sub-Clause 1.1.91 ES</b>	“ <b>ES</b> ” means Environmental and Social (including Sexual Exploitation and Assault (SEA)).

**Sub-Clause 1.1.92  
Sexual Exploitation and  
Abuse (SEA), and Sexual  
Harassment (SH)**

**“Sexual Exploitation and Abuse” “(SEA)”** and Sexual Harassment (HS) mean 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; and

**“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.

**Sub-Clause 1.2  
Interpretation**

Sub-paragraph (a) is replaced with the following:

(b) “Words indicating one gender include all genders;

“he/she” is replaced with: “it”;

“him/her” is replaced with “it”;

“his” and “his/her” are replaced with: “its”;

“himself/herself” are replaced with: “itself”.

Further, “and” is deleted from the end of sub-paragraph (i) and added at the end of sub-paragraph (j).

sub-paragraph (k) is added:

(k) “The word “tender” is synonymous with “bid” or “proposal”, the word tenderer with “bidder” or “proposer” and the words “tender documents” with “request for bids documents” or “request for proposal documents”, as applicable.”

**Sub-Clause 1.5  
Priority of Documents**

The following documents are added in the list of Priority Documents after (e):

“(f) the Particular Conditions Part C- Fraud and Corruption;

(g) the Particular Conditions Part D- Environmental and Social (ES) Metrics for Progress Reports;”

and the list renumbered accordingly.

**Sub-Clause 1.6  
Contract Agreement**

The last paragraph is replaced with:

“If the Contractor comprises a JV, *the authorised representative of the JV shall sign* the Contract Agreement in accordance with sub –clauses 1.14 (Joint and Several Liability).”

**Sub-Clause 1.12  
Confidentiality**

The following is added at the end of the second paragraph: “The Contractor shall be permitted to disclose information required to establish its qualifications to compete for other projects.”

“or” at the end of (b) is deleted.

“or” at the end of (c) is added.

The following is then added as (d): “is being provided to the Bank .”

**Sub-Clause 1.17  
Inspections & Audit by the Bank**

The following Sub-Clause is added after Sub-Clause 1.16:

“Pursuant to paragraph 2.2 e. of Particular Conditions - Part C- Fraud and Corruption, the Contractor shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Contractor’s and its Subcontractors’ and subconsultants’ attention is drawn to Sub-Clause 15.8 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank’s inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank’s prevailing sanctions procedures).”

**Sub-Clause 2.4**

The first paragraph is replaced with:

**Employer's Arrangements****Financial**

"The Employer shall submit, before the Commencement Date, reasonable evidence that financial arrangements have been made for financing the Employer's obligations under the Contract."

The following sub-paragraph is added at the end of Sub-Clause 2.4:

"In addition, if the Bank has notified to the Borrower that the Bank has suspended disbursements under its loan, which finances in whole or in part the execution of the Works, the Employer shall give notice of such suspension to the Contractor with detailed particulars, including the date of such notification, with a copy to the Engineer, within 7 days of the Borrower having received the suspension notification from the Bank. If alternative funds will be available in appropriate currencies to the Employer to continue making payments to the Contractor beyond a date 60 days after the date of Bank notification of the suspension, the Employer shall provide reasonable evidence in its notice of the extent to which such funds will be available."

**Sub-Clause 2.6  
Employer-Supplied  
Materials and Employer's  
Equipment**

*[If Employer-Supplied Materials are listed in the Employer's Requirements for the Contractor's use in the execution of Works, the following provisions may be added]:*

The following is added after the last paragraph of Sub-Clause 2.6:

"The Employer shall supply to the Contractor the Employer-Supplied Materials listed in the Specification, at the time(s) stated in the Specification (if not stated, within the times that shall be required to enable the Contractor to proceed with execution of the Works in accordance with the Programme).

When made available by the Employer, the Contractor shall visually inspect the Employer-Supplied Materials and shall promptly give a Notice to the Engineer of any shortage, defect or default in them. Thereafter, the Contractor shall rectify such shortage, defect or default to the extent instructed by the Engineer. Such instruction shall be deemed to have been given under Sub-Clause 13.3.1 [*Variation by Instruction*].

After this visual inspection, the Employer-Supplied Materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody, and control shall not relieve the Employer of liability of any shortage, defect or default not apparent from a visual inspection."

*[If Employer's Equipment are listed in the Specification for the Contractor's use in the execution of Works, the following provisions may be added]:*

The following is added after the last paragraph of Sub-Clause 2.6:

“The Employer shall make the Employer’s Equipment listed in the Specification available to the Contractor at the time(s) stated in the Specification (if not stated, within the times that shall be required to enable the Contractor to proceed with execution of the Works in accordance with the Program).

Unless expressly stated otherwise in the Specification, the Employer’s Equipment shall be provided for the exclusive use of the Contractor.

When made available by the Employer, the Contractor shall visually inspect the Employer’s Equipment and shall promptly give a Notice to the Engineer of any shortage, defect or default in them. Thereafter, the Contractor shall rectify such shortage, defect or default to the extent instructed by the Engineer. Such instruction shall be deemed to have been given under Sub-Clause 13.3.1 [*Variation by Instruction*].

The Contractor shall be responsible for the Employer’s Equipment while it is under the Contractor’s control and/or any of the Contractor’s Personnel is operating it, driving it, directing it, using it, or in control of it.

The Contractor shall not remove from the Site any items of the Employer’s Equipment without the consent of the Employer. However, consent shall not be required for vehicles transporting Goods or Contractor’s personnel to or from the Site.”

**Sub-Clause 3.1  
The Engineer**

The following is added at the end of the first sub-paragraph:  
“The Engineer’s staff shall include suitably qualified engineers and other professionals who are competent to carry out these duties.”

**Sub-Clause 3.2  
Engineer’s Duties and  
Authority**

The Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions:

- (c) Sub-Clause 13.1: Right to vary - instructing a variation, except;
  - (i) in an emergency situation as determined by the Engineer; or
  - (ii) (if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data.

- (d) Sub-Clause 13.2 (Value Engineering): stating consent or otherwise to a value engineering proposal submitted by the Contractor in accordance with Sub-Clause 13.2.

Notwithstanding the obligation, as set out above, to obtain consent in writing, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, it may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of consent 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, and EOT if any, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

**Sub-Clause 3.3  
Engineer's  
Representative**

The following is added at the end of Sub-Clause 3.3:

"The Engineer shall obtain the consent of the Employer before appointing or replacing an Engineer's Representative."

**Sub-Clause 3.4  
Delegation by the  
Engineer**

The following is added at the end of the second paragraph:

"If any assistants are not fluent in this language, the Engineer shall make competent interpreters available during all working hours, in a number sufficient for those assistants to properly perform their assigned duties and/or exercise their delegated authority."

**Sub-Clause 3.6  
Replacement of the  
Engineer**

In the first paragraph, "42 days" is replaced with: "21 days";  
In the third para, "shall" is replaced with: "should".

**Sub-Clause 4.1  
Contractor's  
Obligations**

**General**

The following is inserted after the paragraph "The Contractor shall provide the Plant (and spare parts, if any) ...":

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

The following is inserted after the paragraph "The Contractor shall, whenever required by the Engineer...":

The Contractor shall not carry out mobilization to Site (e.g. limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits)

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.

The Contractor shall submit, to the Engineer for Review 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.

The C-ESMP shall be part of the Contractor's Documents. The procedures for Review of the C-ESMP and its updates shall be as described in Sub-Clause 4.4.1 [*Preparation and Review*].

The following is added as (g); (g) and (h) of the Sub-Clause are then renumbered as (h) and (i) respectively.

(g) if so stated in the Specification, the Contractor shall:

- (v) design structural elements of the Works taking into account climate change considerations; and
- (vi) apply the concept of universal access (the concept of universal access means unimpeded access for people of all ages and abilities in different situations and under various circumstances.
- (vii) consider the environmental risks of the public's potential exposure to operational accidents or natural hazards, including extreme weather events; and
- (viii) any other requirement stated in the specification."

The following is added at the end of the Sub-Clause:

"The Contractor shall provide relevant contract- related information, as the Employer and/or Engineer may reasonably request to conduct Stakeholder engagements. "Stakeholder" refers to individuals or groups who:

- (iii) are affected or likely to be affected by the Contract; and

(iv) may have an interest in the Contract.

**Sub-Clause 4.2  
Performance Security and  
ES Performance Security**

The Contractor shall also directly participate in Stakeholder engagements, as the Employer and/or Engineer may reasonably request.”

The first paragraph is replaced with:

“The Contractor shall obtain (at its cost) a Performance Security for proper performance and, if applicable, an Environmental and Social (ES) Performance Security for compliance with the Contractor’s ES obligations, in the amounts stated in the Contract Data and denominated in the currency(ies) of the Contract or in a freely convertible currency acceptable to the Employer. If amounts are not stated in the Contract Data, this Sub-Clause shall not apply.”

In the following Sub-Clauses of the General Conditions, the term “Performance Security” is replaced with: “Performance Security and, if applicable, an Environmental and Social (ES) Performance Security”:

2.1- Right of Access to the Site;

14.2- Advance Payment;

14.6- Issue of IPC;

14.12- Discharge;

14.13- Issue of FPC;

14.14 Cessation of Employer’s Liability;

15.2- Termination for Contractor’s Default;

15.5- Termination for Employer’s Convenience.

**Sub-Clause 4.2.1  
Contractor’s  
obligations**

The first paragraph is replaced with:

“The Contractor shall deliver the Performance Security and, if applicable, an ES 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 reputable bank or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer. The ES Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form annexed to the Particular Conditions, as stipulated by the Employer in the Contract Data, or in another form approved by the Employer.”



		Thereafter, throughout Sub-Clause 4.2 “Performance Security” is replaced with: “Performance Security and, if applicable, ES Performance Security.”
<b>Sub-Clause 4.2.2 Claims under the Performance Security</b>		The first paragraph is replaced in its entirety with: “The Employer shall not make a claim under the Performance Security, except for amounts for which the Employer is entitled under the Contract.”
<b>Sub-Clause 4.2.3 Return of Performance Security</b>		In sub-paragraph (a) “21 days” is replaced with: “28 days”.
<b>Sub-Clause 4.3 Contractor’s Representative</b>		The following is added at the end of the last paragraph: “If any of these persons is not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.”
<b>Sub-Clause 4.6 Co-operation</b>		On the second-last line of the first paragraph before “Contractor’s”, add “of the”.  The following is added after the first paragraph:  “The Contractor shall also, as stated in the Specification or as instructed by the Engineer, cooperate with and allow appropriate opportunities for the Employer’s Personnel to conduct any environmental and social assessment”.
<b>Sub-Clause 4.7 Setting out</b>		In the second bullet-point of sub-paragraph (b) of Sub-Clause 4.7.3: - before “if the items of reference”, add: “when examining the items of reference within the period stated in sub-paragraph (a) of Sub-Clause 4.7.2”, - On the second and third lines, the following is deleted: “and the contractor’s Notice is given after the period stated in sub-paragraph (a) of Sub-Clause 4.7.2”.
<b>Sub-Clause 4.8 Health and Obligations</b>	<b>Safety</b>	The following are included after deleting “and” at the end of (f) and replacing “.” with “;” at the end of (g):  (h) provide health and safety training of Contractor’s Personnel as appropriate and maintain training records; (i) actively engage the Contractor’s Personnel in promoting understanding, and methods for, implementation of health and safety requirements, as well as in providing information to Contractor’s Personnel, training on occupational safety and health, and provision of personal protective

equipment without expense to the Contractor's Personnel;

(j) put in place workplace processes for Contractor's Personnel to report work situations that they believe are not safe or healthy, and to remove themselves from a work situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.

(k) Contractor's Personnel who remove themselves from such work situations shall not be required to return to work until necessary remedial action to correct the situation has been taken. Contractor's Personnel shall not be retaliated against or otherwise subject to reprisal or negative action for such reporting or removal;

(l) subject to Sub-Clause 4.6, collaborate with the entities and Personnel under paragraph (a), (b) and (c) of Sub-Clause 4.6, in applying the health and safety requirements. This is without prejudice to the responsibility of the relevant entities for the health and safety of their own personnel; and

(m) establish and implement a system for regular (not less than six-monthly) review of health and safety performance and the working environment."

The second and third paragraphs are replaced with the following:

"Subject to Sub-Clause 4.1, the Contractor shall submit to the Engineer for Review a health and safety manual which has been specifically prepared for the Works, the Site and other places (if any) where the Contractor intends to execute the Works. The procedures for Review of the health and safety manual and its updates shall be as described in Sub-Clause 4.4.1 [*Preparation and Review*].

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and Laws.

The health and safety manual shall set out all the health and safety requirements under the Contract,

(3) which shall include at a minimum:

(vii) the procedures to establish and maintain a safe working environment without risk to health at all workplaces, machinery, equipment and processes under the control of the Contractor, including control measures for chemical, physical and biological substances and agents;

- (viii) details of the training to be provided, records to be kept;
- (ix) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from both natural and man-made hazards, typically in the form of fire, explosions, leaks or spills, which may occur for a variety of different reasons including failure to implement operating procedures that are designed to prevent their occurrence, extreme weather or lack of early warning);
- (x) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases,
- (xi) the measures to be implemented to avoid or minimize the spread of communicable diseases (including transfer of Sexually Transmitted Diseases or Infections (STDs), such as HIV virus) and non-communicable diseases associated with the execution of the Works, taking into consideration differentiated exposure to and higher sensitivity of vulnerable groups. This includes taking measures to avoid or minimize the transmission of communicable diseases that may be associated with the influx of temporary or permanent Contract-related labour;
- (xii) the policies and procedures on the management and quality of accommodation and welfare facilities if such accommodation and welfare facilities are provided by the Contractor in accordance with Sub-Clause 6.6; and

- (4) any other requirements stated in the Specification.

The paragraph starting with: “In addition to the reporting requirement of...” is deleted and replaced with the addition to GC Sub-Clause 4.20 in Sub-Clause 4.20 of the Special Provisions.

**Sub-Clause 4.15  
Access Route**

The following is added at the end of Sub-Clause 4.15:

“The Contractor shall take all necessary safety measures to avoid the occurrence of incidents and injuries to any third party associated with the use of Contractor’s Equipment on public roads or other public infrastructure.

The Contractor shall monitor road safety incidents and accidents to identify negative safety issues, and establish and implement necessary measures to resolve them.”

**Sub-Clause 4.18  
Protection of  
Environment**

Sub-Clause 4.18 Protection of the Environment is replaced with:

“The Contractor shall take all necessary measures to:

- (e) protect the environment (both on and off the Site); and
- (f) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor’s operations and/ or activities.

The Contractor shall ensure that emissions, surface discharges, effluent and any other pollutants from the Contractor’s activities shall exceed neither the values indicated in the Specification, nor those prescribed by applicable Laws.

In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor’s operations, the Contractor shall agree with the Engineer the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Engineer.”

**Sub-Clause 4.20  
Progress Reports**

Replace “4.20 (g) with: “the Environmental and Social (ES) metrics set out in Particular Conditions - Part D”

The following is added at the end of the Sub-Clause:

“In addition to the reporting requirement of this subparagraph (g) of Sub-Clause 4.20 [*Progress Reports*] the Contractor shall inform the Engineer immediately of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer’s Personnel or Contractor’s Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

The Contractor, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Engineer of any such incident or accident on the Subcontractors’ or suppliers’ premises relating to the Works

which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Employer's Personnel or Contractor's, its Subcontractors' and suppliers' personnel. The notification shall provide sufficient detail regarding such incidents or accidents. The Contractor shall provide full details of such incidents or accidents to the Engineer within the timeframe agreed with the Engineer.

The Contractor shall require its Subcontractors and suppliers (other than Subcontractors) to immediately notify the Contractor of any incidents or accidents referred to in this Subclause."

**Sub-Clause 4.21  
Security of the Site**

Sub-Clause 4.21 Security of the Site is replaced with:

**"Sub-Clause 4.21 Security of the Site**

The Contractor shall be responsible for the security of the Site, and:

- (c) for keeping unauthorised persons off the Site;
- (d) authorised persons shall be limited to the Contractor's Personnel, the Employer's Personnel, and to any other personnel identified as authorised personnel (including the Employer's other contractors on the Site), by a Notice from the Employer or the Engineer to the Contractor.

Subject to Sub-Clause 4.1, the Contractor shall submit for the Engineer's No-objection a security management plan that sets out the security arrangements for the Site.

The Contractor shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards Contractor's Personnel, Employer's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Specification.

The Contractor shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

In making security arrangements, the Contractor shall also comply with any additional requirements stated in the Specification."

**Sub-Clause 4.22  
Contractor's Operations  
on Site**

On the third line of the second paragraph before "4.17", "Sub-Clause" is added.

**Sub-Clause 4.23  
Archaeological  
Geological Findings**

**and** The first paragraph is replaced with the following:  
“All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall:

- (d) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings;
- (e) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and
- (f) implement any other action consistent with the requirements of the Specification and relevant Laws.”

**Sub-Clause 4.24  
Suppliers (other  
Subcontractors)**

**4.24.1 Forced Labour**  
**than** The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage forced labour including trafficked persons as described in Sub-Clause 6.21. If forced labour/trafficking cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

**4.24.2 Child labour**

The Contractor shall take measures to require its suppliers (other than Subcontractors) not to employ or engage child labour as described in Sub-Clause 6.22. If child labour cases are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

**4.24.3 Serious Safety Issues**

The Contractor, including its Subcontractors, shall comply with all applicable safety obligations, including as stated in Sub-Clauses 4.8, 5.1 and 6.7. The Contractor shall also take measures to require its suppliers (other than Subcontractors) to adopt procedures and mitigation measures adequate to address safety issues related to their personnel. If serious safety issues are identified, the Contractor shall take measures to require the suppliers to take appropriate steps to remedy them. Where the supplier does not remedy the situation, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to manage such risks.

**4.24.4 Obtaining natural resource materials in relation to supplier**

The Contractor shall obtain natural resource materials from suppliers that can demonstrate, through compliance with the applicable verification and/ or certification requirements, that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats such as unsustainably harvested wood products, gravel or sand extraction from river beds or beaches.

If a supplier cannot continue to demonstrate that obtaining such materials is not contributing to the risk of significant conversion or significant degradation of natural or critical habitats, the Contractor shall within a reasonable period substitute the supplier with a supplier that is able to demonstrate that they are not significantly adversely impacting the habitats.

**Sub-Clause 4.25  
Code of Conduct**

The Contractor shall have a Code of Conduct for the Contractor's Personnel.

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.

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.

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.

The Contractor's Management Strategy and Implementation Plans shall include appropriate processes for the Contractor to verify compliance with these obligations.

**Sub-Clause 5.1  
Subcontractors**

The following is added at the beginning of the second paragraph.

"The Contractor shall require that its Subcontractors execute the Works in accordance with the Contract, including complying with the relevant ES requirements and the obligations set out in Sub-Clause 4.25 above.."



The following is added at the end of the last paragraph of Sub-Clause 5.1:

“All subcontracts relating to the Works shall include provisions which entitle the Employer to require the subcontract to be assigned to the Employer under sub-paragraph (a) of Sub-Clause 15.2.3 [*After Termination*].

Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from the Country to be appointed as Subcontractors.”

**Sub-Clause 5.2.2  
Objection to Nomination**

In sub-paragraph (a), on the first line before “Subcontractor”, “nominated” is added.

In sub-paragraph (c):

“and” is deleted from the end of (i);

“.” at the end of (ii) is replaced with: “, and”.

The following is then added as (iii):

“(iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.2.3 [*Payment to nominated Subcontractors*].”

**Sub-Clause 6.1  
Engagement of Staff and  
Labour**

The following paragraphs are added at the end of the Sub-Clause:

The Contractor shall provide the Contractor’s Personnel information and documentation that are clear and understandable regarding their terms and conditions of employment. The information and documentation shall set out their rights under relevant labour Laws applicable to the Contractor’s Personnel (which will include any applicable collective agreements), including their rights related to hours of work, wages, overtime, compensation and benefits, as well as those arising from any requirements in the Specification. The Contractor’s Personnel shall be informed when any material changes to their terms or conditions of employment occur.

“The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour with appropriate qualifications and experience from sources within the Country.”

**Sub-Clause 6.2  
Rates of Wages and  
Conditions of Labour**

The following paragraphs are added at the end of the Sub-Clause:

“The Contractor shall inform the Contractor’s Personnel about:



- (c) any deduction to their payment and the conditions of such deductions in accordance with the applicable Laws or as stated in the Specification; and
- (d) their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of the Country for the time being in force.

The Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

Where required by applicable Laws or as stated in the Specification, the Contractor shall provide the Contractor's Personnel written notice of termination of employment and details of severance payments in a timely manner. The Contractor shall have paid the Contractor's Personnel (either directly or where appropriate for their benefit) all due wages and entitlements including, as applicable, social security benefits and pension contributions, on or before the end of their engagement/ employment."

**Sub-Clause 6.5 Working Hours**

The following is inserted at the end of the Sub-Clause:

"The Contractor shall provide the Contractor's Personnel annual holiday and sick, maternity and family leave, as required by applicable Laws or as stated in the Specification."

**Sub-Clause 6.6 Facilities for Staff and Labour**

The following is added as the last paragraph:

"If stated in the Specification, the Contractor shall give access to or provide services that accommodate the physical, social and cultural needs of the Contractor's Personnel. The Contractor shall also provide similar facilities for the Employer's Personnel as stated in the Specification."

**Sub-Clause 6.7 Health and Safety of Personnel**

In the second paragraph, "The Contractor" is replaced with:

"Except as otherwise stated in the Specification, the Contractor..."

**Sub-Clause 6.9 Contractor's Personnel**

The Sub-Clause is replaced with:

"The Contractor's Personnel (including Key Personnel, if any) shall be appropriately qualified, skilled, experienced and competent in their respective trades or occupations.

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:

- (h) persists in any misconduct or lack of care;
- (i) carries out duties incompetently or negligently;
- (j) fails to comply with any provision of the Contract;
- (k) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
- (l) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works;
- (m) has been recruited from the Employer's Personnel in breach of Sub-Clause 6.3 [Recruitment of Persons];
- (n) undertakes behaviour which breaches the Code of Conduct for Contractor's Personnel (ES).

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 [*Contractor's Representative*] shall apply. In the case of replacement of Key Personnel (if any), Sub-Clause 6.12 [*Key Personnel*] shall apply.

Subject to the requirements in Sub-Clause 4.3 [*Contractor's Representative*] and 6.12 [*Key Personnel*], 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, any Contractor's Personnel who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above."

**Sub-Clause 6.12  
Key Personnel**

The following is inserted at the end of the last paragraph:

"If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer."

**The following Sub-Clauses 6.13 to 6.27 are added after sub-clause 6.12**

**Sub-Clause 6.13  
Foreign Personnel**

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

	<p>The Contractor shall be responsible for the return of these personnel to the place where they were recruited or to their domicile. In the event of the death in the Country 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>
<b>Sub-Clause 6.14 Supply of Foodstuffs</b>	<p>The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.</p>
<b>Sub-Clause 6.15 Supply of Water</b>	<p>The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.</p>
<b>Sub-Clause 6.16 Measures against Insect and Pest Nuisance</b>	<p>The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.</p>
<b>Sub-Clause 6.17 Alcoholic Liquor or Drugs</b>	<p>The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel.</p>
<b>Sub-Clause 6.18 Arms and Ammunition</b>	<p>The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.</p>
<b>Sub-Clause 6.19 Festivals and Religious Customs</b>	<p>The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs.</p>
<b>Sub-Clause 6.20 Funeral Arrangements</b>	<p>The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.</p>

**Sub-Clause 6.21  
Forced Labour**

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

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

**Sub-Clause 6.22  
Child Labour**

The Contractor, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Engineer's consent. The Contractor shall be subject to regular monitoring by the Engineer that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (f) with exposure to physical, psychological or sexual abuse;
  - (g) underground, underwater, working at heights or in confined spaces;
  - (h) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
  - (i) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health;
- or

- (j) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

**Sub-Clause 6.23  
Employment Records of  
Workers**

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

**Sub-Clause 6.24  
Workers' Organisations**

In countries where the relevant labour laws recognise workers' rights to form and to join workers' organisations of their choosing and to bargain collectively without interference, the Contractor shall comply with such laws. In such circumstances, the role of legally established workers' organizations and legitimate workers' representatives will be respected, and they will be provided with information needed for meaningful negotiation in a timely manner. Where the relevant labour laws substantially restrict workers' organisations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. The Contractor shall not seek to influence or control these alternative means. The Contractor shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organisations and collective bargaining or alternative mechanisms. Workers' organisations are expected to fairly represent the workers in the workforce.

**Sub-Clause 6.25  
Non-Discrimination and  
Equal Opportunity**

The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and

equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.22).

**Sub-Clause 6.26  
Contractor's Personnel  
Grievance Mechanism**

The Contractor shall have a grievance mechanism for Contractor's Personnel, and where relevant the workers' organizations stated in Sub-Clause 6.24, to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The mechanism shall address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned in a language they understand, without any retribution, and shall operate in an independent and objective manner.

The Contractor's Personnel shall be informed of the grievance mechanism at the time of engagement for the Contract, and the measures put in place to protect them against any reprisal for its use. Measures will be put in place to make the grievance mechanism easily accessible to all Contractor's Personnel.

The grievance mechanism shall not impede access to other judicial or administrative remedies that might be available, or substitute for grievance mechanisms provided through collective agreements.

The grievance mechanism may utilize existing grievance mechanisms, providing that they are properly designed and implemented, address concerns promptly, and are readily accessible to such project workers. Existing grievance mechanisms may be supplemented as needed with Contract-specific arrangements.

**Sub-Clause 6.27  
Training of Contractor's  
Personnel**

The Contractor shall provide appropriate training to relevant Contractor's Personnel on ES aspects of the Contract, including appropriate sensitization on prohibition of SEA and SH, and health and safety training referred to in Sub-Clause 4.8

As stated in the Specification or as instructed by the Engineer, the Contractor shall also allow appropriate opportunities for the relevant Contractor's Personnel to be trained on ES aspects of the Contract by the Employer's Personnel.

The Contractor shall provide training on SEA and SH, including its prevention, to any of its personnel who has a role to supervise other Contractor's Personnel.

**Sub-Clause 7.3 Inspection**

The following is added in the first paragraph after "Employer's Personnel" "(including the Bank staff or consultants acting on the Bank's behalf, stakeholders and third parties, such as independent experts, local communities, or non-governmental organizations)"

The following is added as (b) (iv):

“(iv) carryout environmental and social audit, and”

**Sub-Clause 7.7  
Ownership of Plant and  
Materials**

The following is added before the first paragraph:

“Except as otherwise provided in the Contract,”

**Sub-Clause 8.1  
Commencement of Work**

The Sub- Clause is replaced in its entirety with the following:

“The Engineer shall give a Notice to the Contractor stating the Commencement Date, not less than 14 days before the Commencement Date.

The Notice shall be issued promptly after the Engineer determines the fulfilment of the following conditions:

- (f) signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of the Country;
- (g) delivery to the Contractor of reasonable evidence of the Employer’s financial arrangements (under Sub-Clause 2.4 [Employer’s Financial Arrangements]);
- (h) except if otherwise specified in the Contract Data, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works;
- (i) receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor;
- (j) constitution of the DAAB in accordance with Sub-Clause 21.1 and Sub-Clause 21.2 as applicable.

Subject to Sub-Clause 4.1 on the Management Strategies and Implementation Plans and the C-ESMP and Sub-Clause 4.8 on the health and safety manual, the Contractor, shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.”

**Sub-Clause 11.7  
Right of Access after  
Taking Over**

In the second paragraph, “Whenever the Contractor intends to access any part of the Works during the relevant DNP:” is replaced with:

“Whenever, until the date 28 days after issue of the Performance Certificate, the Contractor intends to access any part of the Works:”

**Sub-Clause 13.3.1  
Variation by Instruction**

Subparagraph 13.3.1 (a) is replaced with: “a description of the varied work performed or to be performed, including



details of the resources and methods adopted or to be adopted by the Contractor, and sufficient ES information to enable an evaluation of ES risks and impacts;"

**Sub-Clause 13.4  
Provisional Sums**

The following is inserted as the penultimate paragraph:

"The Provisional Sum shall be used to cover the Employer's share of the DAAB members' fees and expenses, in accordance with Clause 21. No prior instruction of the Engineer shall be required with respect to the work of the DAAB. The Contractor shall submit the DAAB members' invoices and satisfactory evidence of having paid 100% of such invoices as part of the substantiation of those Statements submitted under Sub-Clause 14.3.

**Sub-Clause 13.6  
Adjustments for Changes  
in Laws**

The following paragraph is added at the end of the Sub-Clause:

"Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the Table of Adjustment Data in accordance with the provisions of Sub-Clause 13.7 [Adjustments for Changes in Cost]."

**Sub-Clause 13.7  
Adjustments for changes  
in Cost**

Add the following paragraph at the end only if Contract Data specifies adjustment shall apply. Otherwise, prices shall be fixed during the duration of the Contract:

"Schedule of Cost Indexation: Formula for Adjustment for Change in Cost:

$P_n = a + b L_n / L_o + c E_n / E_o + d M_n / M_o + \dots$  where:

" $P_n$ " is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in period "n", this period being a month unless otherwise stated in the Contract Data;

"a" is a fixed coefficient, stated in the relevant table of adjustment data, representing the non-adjustable portion in contractual payments;

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, as stated in the relevant table of adjustment data; such tabulated cost elements may be indicative of resources such as labour, equipment and materials;

" $L_n$ ", " $E_n$ ", " $M_n$ ", ... are the current cost indices or reference prices for period "n", expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the date 49 days prior to the last day of the period (to which the particular Payment Certificate relates); and



“Lo”, “Eo”, “Mo”, ... are the base cost indices or reference prices, expressed in the relevant currency of payment, each of which is applicable to the relevant tabulated cost element on the Base Date.

The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. For this purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table)..

If the currency in which the Contract price is expressed is different from the currency of the country of origin of the indices, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall be:  $Z_0 / Z_1$ , where,

$Z_0$  = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Base date, and

$Z_1$  = the number of units of currency of the origin of the indices which equal to one unit of the currency of the Contract Price on the Date of Adjustment.

#### **Sub-Clause 14.1 The Contract Price**

The following is added at the end of the Sub-Clause:

“Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefore, imported by the Contractor for the sole purpose of executing the Contract shall be temporarily exempt from the payment of import duties and taxes upon initial importation, provided the Contractor shall post with the customs authorities at the port of entry an approved export bond or bank guarantee, valid until the Time for Completion plus six months, in an amount equal to the full import duties and taxes which would be payable on the assessed imported value of such Contractor's Equipment and spare parts, and callable in the event the Contractor's Equipment is not exported from the Country on completion of the Contract. A copy of the bond or bank guarantee endorsed by the customs authorities shall be provided by the Contractor to the Employer upon the importation of individual items of Contractor's Equipment and spare parts. Upon export of individual items of Contractor's Equipment or spare parts, or upon the completion of the Contract, the Contractor shall prepare, for approval by the customs authorities, an assessment of the residual value of the Contractor's Equipment and spare part to be exported, based on the depreciation scale (s) and other criteria used by the customs authorities for such purposes under the provisions of the applicable Laws. Import duties and taxes shall be due and payable to the customs authorities by the Contractor on (a) the difference between the initial imported value and the residual value of the Contractor's Equipment

and spare parts to exported; and (b) on the initial imported value of the Contractor's Equipment and spare parts remaining in the Country after completion of the Contract. Upon payment of such dues within 28 days of being invoiced, the bond or bank guarantee shall be reduced or released accordingly; otherwise the security shall be called in the full amount remaining."

**Sub-Clause 14.2.1**  
**Advance Payment**  
**Guarantee**

The first paragraph is replaced with:

"The Contractor shall obtain (at the Contractor's cost) an Advance Payment Guarantee in amounts and currencies equal to the advance payment, and shall submit it to the Employer with a copy to the Engineer. This guarantee shall be issued by reputable bank or financial institution selected by the Contractor and shall be based on the sample form annexed to the Particular Conditions or in another form agreed by the Employer (but such agreement shall not relieve the Contractor from any obligation under this Sub-Clause)."

**Sub-Clause 14.3**  
**Application for Interim**  
**Payment**

The following is inserted at the end of (vi) after: *[Agreement or Determination]*: "any reimbursement due to the Contractor under the Dispute Avoidance/ Adjudication Agreement. (Appendix General Conditions of Dispute Avoidance/ Adjudication Agreement)."

**Sub-Clause 14.6.2**  
**Withholding (amounts in)**  
**an IPC**

"and/or" from subparagraph (b) is deleted.

The following is then added as subparagraph (c) and subparagraph (c) of the Sub-Clause is renumbered as (d):

"(c) if the Contractor was, or is, failing to perform any ES obligations or work under the Contract, the value of this work or obligation, as determined by the Engineer, may be withheld until the work or obligation has been performed, and/or the cost of rectification or replacement, as determined by the Engineer, may be withheld until rectification or replacement has been completed. Failure to perform includes, but is not limited to the following:

- (i) failure to comply with any ES obligations or work described in the Works' Requirements which may include: working outside site boundaries, excessive dust, damage to offsite vegetation, pollution of water courses from oils or sedimentation, contamination of land e.g. from oils, human waste, damage to archaeology or cultural heritage features, air pollution as a result of unauthorized and/or inefficient combustion;

- (ii) failure to regularly review C-ESMP and/or update it in a timely manner to address emerging ES issues, or anticipated risks or impacts;
- (iii) failure to implement the C-ESMP e.g. failure to provide required training or sensitization;
- (iv) failing to have appropriate consents/permits prior to undertaking Works or related activities;
- (v) failure to submit ES report/s (as described in Particular Conditions - Part D), or failure to submit such reports in a timely manner;
- (vi) failure to implement remediation as instructed by the Engineer within the specified timeframe (e.g. remediation addressing non-compliance/s)."

**Sub-Clause 14.7  
Payment**

At the end of sub-paragraph (b): "and" is replaced with "or" and the following inserted as (iii):

"(iii) at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended, the amount shown on any statement submitted by the Contractor within 14 days after such statement is submitted, any discrepancy being rectified in the next payment to the Contractor; and"

At the end of sub-paragraph (c): "." is replaced with "," and the following inserted:

"or, at a time when the Bank's loan or credit (from which part of the payments to the Contractor is being made) is suspended the undisputed amount shown in the Final Statement within 56 days after the date of notification of the suspension in accordance with Sub-Clause 16.2 [Termination by Contractor]."

**Sub-Clause 14.9  
Release of Retention  
Money**

The following is added at the end of Sub-Clause 14.9:

"Unless otherwise stated in the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a guarantee, in the form annexed to the Particular Conditions or in another form approved by the Employer and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money. The Contractor shall ensure that the guarantee is in the amounts and currencies of the second half of the Retention Money and is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects, as specified for the Performance

Security and, if applicable, an ES Performance Security in Sub-Clause 4.2. On receipt by the Employer of the required guarantee, the Engineer shall certify and the Employer shall pay the second half of the Retention Money. The release of the second half of the Retention Money against a guarantee shall then be in lieu of the release after the latest of the expiry dates of the Defects Notification Periods. The Employer shall return the guarantee to the Contractor within 21 days after receiving a copy of the Performance Certificate.

If the Performance Security and, if applicable, an ES Performance Security required under Sub-Clause 4.2 is in the form of a demand guarantee, and the amount guaranteed under them when the Taking-Over Certificate is issued is more than half of the Retention Money, then the Retention Money guarantee will not be required. If the amount guaranteed under the Performance Security and, if applicable, an ES Performance Security, when the Taking-Over Certificate is issued is less than half of the Retention Money, the Retention Money guarantee will only be required for the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if applicable, an ES Performance Security.”

**Sub-Clause 14.12  
Discharge**

On the seventh line of the first paragraph, “Sub-Clause 21.6 [*Arbitration*]” is replaced with: “Clause 21 [*Disputes and Arbitration*]”.

**Sub-Clause 14.15  
Currencies of Payment**

Throughout Sub-Clause 14.15, “Contract Data” is replaced with: “Schedule of Payment Currencies”.

**Sub-Clause 15.1  
Notice to Correct**

“and” is deleted from (b) and

“.” is replaced by: “; and” in (c).

The following is then added as (d)

“(d) specify the time within which the Contractor shall respond to the Notice to Correct.”

In the third para., “shall immediately respond” is replaced with: “shall respond within the time specified in (d)”. Further, in the third para., “to comply with the time specified in the Notice to Correct.” is replaced with: “to comply with the time specified in (c).”

**Sub-Clause 15.2.1  
Notice**

Sub-paragraph (h) is replaced with: “based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Particular Conditions - Part C- Fraud and Corruption, in competing for or in executing the Contract.”

**Sub-Clause 15.8  
Fraud and Corruption**

The following new Sub-Clause is added:

“15.8.1 The Bank requires compliance with the Integrity Framework comprising the African Development Bank Group’s Sanctions Procedures, the Bank’s Whistleblowing and Complaints Policy, the Bank’s Procurement Policy under the Procurement Framework and any other applicable Policies and Procedures including their updates, as set forth in Particular Conditions - Part C- Fraud and Corruption.

15.8.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.”

**Sub-Clause 15.9  
Eligibility**

**The following new Sub-Clause is added:**

“The Contractor and its Subcontractor or Suppliers shall have the nationality of an eligible country of the Bank in accordance with the Bank’s Procurement Policy for the Bank Group Funded Operation described under the Bank’s Procurement Framework, and as listed in Section V, Eligible Countries. The Contractor shall be deemed to have the nationality of a country if the Contractor is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including related Services. All materials, equipment and services to be supplied under the Contract shall have their country of origin in an eligible country of the Bank in accordance with the Bank’s Procurement Policy for Bank Group Funded Operations described under the Bank’s Procurement Framework, and as set forth in Particular Conditions -Part E- Section V, Eligible Countries.”

**Sub-Clause 16.1  
Suspension by Contractor**

The following paragraph is inserted after the first paragraph:

“Notwithstanding the above, if the Bank has suspended disbursements under the loan or credit from which payments to the Contractor are being made, in whole or in part, for the execution of the Works, and no alternative funds are available as provided for in Sub-Clause 2.4 [Employer’s Financial Arrangements], the Contractor may by notice suspend work or reduce the rate of work at any time, but not less than 7 days after the Borrower having received the suspension notification from the Bank.”

**Sub-Clause 16.2.1  
Notice**

Sub-paragraph (j) is deleted in its entirety.

At the end of sub-paragraph (i): “; or” is replaced with: “.”

sub-paragraph (f) is replaced with:

“(f) the Contractor does not receive a Notice of the Commencement Date under Sub-Clause 8.1 [*Commencement of Works*] within 180 days after receiving the Letter of Acceptance, for reasons not attributable to the Contractor.”

**Sub-Clause 16.2.2  
Termination**

The following is added at the end of Sub-Clause 16.2.2:

“In the event the Bank suspends the loan or credit from which part or whole of the payments to the Contractor are being made, if the Contractor has not received the sums due to him upon expiration of the 14 days referred to in Sub-Clause 14.7 [Payment] for payments under Interim Payment Certificates, the Contractor may, without prejudice to the Contractor's entitlement to financing charges under Sub-Clause 14.8 [Delayed Payment], take one of the following actions, namely (i) suspend work or reduce the rate of work under Sub-Clause 16.1 above, or (ii) terminate the Contract by giving notice to the Employer, with a copy to the Engineer, such termination to take effect 14 days after the giving of the notice.”

**Sub-Clause 17.7  
Use of Employer's  
Accommodation/Facilities**

The following Sub-Clause is added as 17.7:

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

If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Employer is liable, the Contractor shall, at its own cost, rectify the loss or damage to the satisfaction of the Engineer.”

**Sub-Clause 18.1  
Exceptional Events**

Sub-paragraph (c) is substituted with:

“(c) riot, commotion, disorder or sabotage by persons other than the Contractor's Personnel and other employees of the Contractor and Subcontractors;”

**Sub-Clause 18.4  
Consequences of an  
Exceptional Event**

The following is added at the end of sub-paragraph (b) after deleting the “.”:

“, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Exceptional Events, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 19.2 [ Insurance to be provided by the Contractor].”

**Sub-Clause 18.5  
Optional Termination**

In sub-paragraph (c), “and necessarily” is inserted after ““was reasonably”.

**Sub-Clause 19.1  
General Requirements**

The following paragraphs are added after the first:

“Wherever the Employer is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with terms (if any) agreed by both Parties before the date of the Letter of Acceptance.

This agreement of terms shall take precedence over the provisions of this Clause.”

**Sub-Clause 19.2  
insurance to be provided  
by the Contractor**

The following is inserted as the first sentence in Sub-Clause 19.2:

“The Contractor shall be entitled to place all insurances relating to the Contract (including, but not limited to the insurance referred to Clause 19) with insurers from any eligible source country.”

**Sub-Clause 19.2.5  
Injury to employees**

The second paragraph is replaced with:

“The Employer and the Engineer shall also be indemnified under the policy of insurance, against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor’s Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer’s Personnel.”

**Sub-Clause 20.1  
Claims**

In a): “any additional payment” is replaced with “payment”.

**Sub-Clause 20.2  
Claims for Payment  
and/or EOT**

The first paragraph is replaced with:

“If either Party considers that it is entitled to claim under 20.1 (a) or (b), the following claim procedure shall apply:”

**Sub-Clause 21.1  
Constitution of the DAAB**

In the second paragraph, at the end of the first sentence after deleting: “.”, the following is added: “, each of whom shall meet the criteria set forth in Sub-Clause 3.3 of Appendix-General Conditions of Dispute Avoidance/ Adjudication Agreement.”



After the second paragraph insert the following paragraph: “If the Contract is with a foreign Contractor, the DAAB members shall not have the same nationality as the Employer or the Contractor.”

**Sub-Clause 21.2  
Failure to Appoint DAAB  
Member (s)**

For both (a) and (b): “by the date stated in the first paragraph of Sub-Clause 21.1 [*Constitution of the DAAB*]” is replaced with: “within 42 days from the date the Contract is signed by both Parties”

**Sub-Clause 21.6  
Arbitration**

In the first paragraph, delete starting from: “international arbitration” up to the end of (c), and replace with the following:

“arbitration. Arbitration shall be conducted as follows:

- (b) if the contract is with foreign contractors, unless otherwise specified in the Contract Data; the dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce; by one or three arbitrators appointed in accordance with these Rules. The place of arbitration shall be the neutral location specified in the Contract Data; and the arbitration shall be conducted in the ruling language defined in Sub-Clause 1.4 [Law and Language].
- (b) If the Contract is with domestic contractors, arbitration with proceedings conducted in accordance with the laws of the Employer’s country.”



## Appendix- General Conditions of Dispute Avoidance / Adjudication Agreement

**Title** “General Conditions of Dispute Avoidance/Adjudication Agreement” is replaced with “General Conditions of DAAB Agreement”.

### 1. Definitions

Sub-Clause 1.2: In both the first and third lines, “DAA Agreement” is replaced with “DAAB Agreement”.

Sub-Clause 1.3:

- In the first line, “Dispute Avoidance/Adjudication Agreement” or “DAA Agreement” means” is replaced with:
- “DAAB Agreement” is as defined under the Contract and is”.
- In the first line of sub-paragraph (c), “DAA Agreement” is replaced with “DAAB Agreement”.
- In sub-paragraph (c)(ii), “chairman” is replaced with “chairperson”.

Sub-Clause 1.3 “DAAB Activities” is replaced with Sub-Clause 1.4 “DAAB Activities” and the subsequent Sub- Clauses under Clause 1 “Definitions” renumbered:

Sub-Clause 1.7 to 12: Replace all instances of “DAA Agreement” with “DAAB Agreement”.

In Sub-Clause 1.8 a(i):” authorised representative of the contractor or of the Employer” is replaced with: “Contractor’s Representative or authorised representative of the Employer”.

Sub-Clause 2.2 is deleted in its entirety.

### 2. General provisions

#### 5. Warranties

Sub-Clause 3.3 is deleted and replaced with the following:

“When appointing the DAAB Member, each Party relies on the DAAB Member’s representations, that he/she;

- o) has at least a bachelor’s degree in relevant disciplines such as law, engineering, construction management or contract management;
- p) has at least ten years of experience in contract administration/management and dispute resolution, out of which at least five years of experience as an arbitrator or adjudicator in construction-related disputes;
- q) has received formal training as an adjudicator from an internationally recognized organization;

- r) has experience and/or is knowledgeable in the type of work which the Contractor is to carry out under the Contract;
- s) has experience in the interpretation of construction and/or engineering contract documents;
- t) has familiarity with the forms of contract published by FIDIC since 1999, and an understanding of the dispute resolution procedures contained therein; and
- u) is fluent in the language for communications stated in the Contract Data (or the language as agreed between the Parties and the DAAB)."

**7. Confidentiality**

In Sub-Clause 7.3: "or" is deleted after sub-paragraph (b), and the following added:

"or (d) is being provided to the Bank."

**9. Fees and Expenses**

In Sub-Clause 9.1 (c): "business class or equivalent" is replaced with: "in less than first class".

In Sub-Clause 9.4: "and air fares" and "other" are deleted from the first and second sentences respectively.

**12. Resignation  
Termination**

& In Sub-Clause 10.3: "the DAA Agreement" is replaced with: "a DAAB member's DAAB Agreement".

**Annex- DAAB Procedural Rules**

Rule 4.2 On the fourth line, "chairman" is replaced with "chairperson".

Rule 8.3 On the sixth line, "chairman" is replaced with "chairperson".

**Form of Dispute Avoidance/Adjudication Agreement**

All instances of "DAA Agreement" are replaced with: "DAAB Agreement".

In C (b): "chairman" is replaced with "chairperson".

## Particular Conditions

### Part C- Fraud and Corruption

*(Text in this Particular Conditions - Part C shall not be modified)*

#### 1. Purpose

1.1 The Bank's Integrity Framework and this annex apply with respect to procurement under Bank Investment Project Financing operations.

#### 2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption<sup>1</sup>.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:
  - i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party<sup>2</sup>;
  - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party<sup>3</sup> to obtain financial or other benefit or to avoid an obligation;
  - iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
  - iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
  - v. "obstructive practice" is:
    - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harass or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

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<sup>1</sup> In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>2</sup> For the purpose of this sub-paragraph, "another party" refers to a public official acting in relation to the procurement process or contract execution, including Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>3</sup> For the purpose of this sub-paragraph, "party" refers to a public official, including Bank staff and employees of other organizations taking or reviewing procurement decisions.; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution."

- (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
  - c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
  - d. Pursuant to the Bank's Integrity Framework and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner<sup>4</sup>; (ii) to be a nominated <sup>5</sup> sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
  - e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect <sup>6</sup> all accounts, records and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.

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<sup>4</sup> For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

<sup>5</sup> A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

<sup>6</sup> Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.



## Particular Conditions

### Part D- Environmental and Social (ES)

#### Metrics for Progress Reports

*[Note to Employer: the following metrics may be amended to reflect the specifics of the Contract. The Employer shall ensure that the metrics provided are appropriate for the Works and impacts/key issues identified in the environmental and social assessment]*

*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 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) 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

- I. 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 bowsters, 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 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
- v. 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 E-Section V - Eligible Countries

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Eligibility for the Provision of Goods, Works and Non-Consulting Services in Bank Group Financed Procurement

#### **A. Provisions under Section 5 “Eligibility” of the Procurement Policy for Bank Group Funded Operations and Chapter A2 of the Operations Procurement Manual under Procurement Framework of the African Development Bank**

1. The African Development Fund (ADF) permits firms and individuals from all countries to offer goods, works and services for ADF funded projects.

However, the proceeds of any Financing undertaken in the operations of the African Development Bank (ADB) and the Nigeria Trust Fund (NTF) shall be used for procurement of goods and works, including the related services, provided by bidders from Eligible<sup>7</sup> Countries.<sup>8</sup> Any conditions for participation shall be limited to those that are essential to ensure the firm's capability to fulfill the contract in question. In the case of ADB and NTF, bidders from non-Member Countries offering goods, works and related services (including transportation and insurance) are not eligible even if they offer these from Eligible Member Countries. Any waiver to this rule will be in accordance with the Articles 17(1) (d) of the Agreement Establishing the African Development Bank and 4.1 of the Agreement Establishing the Nigeria Trust Fund.

#### **B. Rules and Procedures for Procurement of Goods and Works**

##### **Overview**

1. The eligibility criteria for participation in the supply of goods, works and related services, to be procured through the ADB and NTF Financing, derive from the requirements of the Agreement Establishing the African Development Bank, Article 17.1.d, and the Agreement Establishing the Nigeria Trust Fund, Article 4.1. The foregoing requirements basically prescribe two types of eligibility criteria:
  - (a) The eligibility of the bidder;
  - (b) The eligibility of the goods, works and related services.

##### **Eligibility of the Bidder under the ADB & NTF Financing**

2. The eligibility of the bidder shall be based on nationality, in accordance with the following rules:
  - (a) Natural Persons: A natural person is eligible if he or she is a national of a Member Country of the ADB. Where a person has more than one nationality, such a person shall be eligible if the nationality indicated in his or her bid is that of a Member Country of the ADB.
  - (b) Corporations: A corporation is eligible if it satisfies the following criteria:
    1. it is incorporated in a country that is a Member of the ADB;

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<sup>7</sup> Refer to Bank Procurement Framework for additional information on Eligibility.

<sup>8</sup> “Eligible Countries” shall mean: (a) in the case of the African Development Bank and the Nigeria trust Fund, the Member Countries of the African Development Bank; and (b) in the case of the African Development Fund, any country.

2. it is a national of a country that is a Member of the ADB, as determined by the law of its place of incorporation;
  3. it has its principal place of business in a country that is a Member of the ADB.
- (c) Joint Ventures and Associations: An unincorporated joint venture, partnership, or association, shall be eligible if more than 50% of the value of its works and/or services is executed by its members satisfying the eligibility requirements for individuals or corporations.

### **Eligibility of the Goods, Works and Related Services**

3. In order to be eligible, the goods to be procured must have been mined, grown, or produced, in the form in which they are purchased, in an Eligible Member Country.
4. For works contracts, which may include civil works, plant construction, or turnkey contracts, the contractor must satisfy the nationality criteria of eligibility, either as a natural person, or corporation, or joint venture and association. Labour, equipment, and materials needed for carrying out the works contract, shall be supplied from Eligible Member Countries.
5. For contracts, which have been awarded on the basis of Cost, Insurance and Freight (CIF), or Carriage and Insurance Paid (CIP), bidders shall be free to arrange for ocean and other transportation, and the related insurance, from any Eligible Member Country. On the other hand, where goods are shipped on FOB basis, and the Bank has agreed to finance transportation and insurance separately, which are arranged by the purchaser, under a separate contract, the Bank shall be satisfied that the services are supplied from Eligible Member Countries.

### **List of Eligible Countries**

6. List of Eligible countries can be found in African Development Bank's website:

<https://www.afdb.org/en/about-us/corporate-information/members/>

### **Ineligible Countries in reference to ITB 4.8 and ITB 5.1**

7. In reference to ITB 4.8 and ITB 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.8(a) and ITB 5.1: *[insert a list of the countries following approval by the Bank to apply the restriction or state "none"]*.

Under ITB 4.8(b) and ITB 5.1: *[insert a list of the countries following approval by the Bank to apply the restriction or state "none"]*

## **Section X - Contract Forms**

### **Table of Forms**

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## Notification of Intention to Award

*[This Notification of Intention to Award shall be sent to each Bidder that submitted a Bid.]*

*[Send this Notification to the Bidder's Authorized Representative named in the Bidder Information Form]*

For the attention of Bidder's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

**[IMPORTANT: insert the date that this Notification is transmitted to Bidders. The Notification must be sent to all Bidders simultaneously. This means on the same date and as close to the same time as possible.]**

**DATE OF TRANSMISSION:** This Notification is sent by: *[email/fax]* on *[date]* (local time)

## Notification of Intention to Award

**Employer:** *[insert the name of the Employer]*

**Project:** *[insert name of project]*

**Contract title:** *[insert the name of the contract]*

**Country:** *[insert country where RFB is issued]*

**Loan No. /Credit No. / Grant No.:** *[insert reference number for loan/credit/grant]*

**RFB No:** *[insert RFB reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) request a debriefing in relation to the evaluation of your Bid, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

### 1. The successful Bidder

<b>Name:</b>	<i>[insert name of successful Bidder]</i>
<b>Address:</b>	<i>[insert address of the successful Bidder]</i>
<b>Contract price:</b>	<i>[insert contract price of the successful Bid]</i>

### 2. Other Bidders **[INSTRUCTIONS: insert names of all Bidders that submitted a Bid. If the Bid's price was evaluated include the evaluated price as well as the Bid price as read out.]**

Name of Bidder	Bid price	Evaluated Bid price (if applicable)
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]
[insert name]	[insert Bid price]	[insert evaluated price]

### 3. Reason/s why your Bid was unsuccessful

**[INSTRUCTIONS: State the reason/s why this Bidder's Bid was unsuccessful. Do NOT include: (a) a point by point comparison with another Bidder's Bid or (b) information that is marked confidential by the Bidder in its Bid.]**

### 4. How to request a debriefing

**DEADLINE:** The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Bid. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Bidder, contact details; and address the request for debriefing as follows:

**Attention:** [insert full name of person, if applicable]

**Title/position:** [insert title/position]

**Agency:** [insert name of Employer]

**Email address:** [insert email address]

**Fax number:** [insert fax number] **delete if not used**

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

### 5. How to make a complaint

**Period:** Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).

Provide the contract name, reference number, name of the Bidder, contact details; and address the Procurement-related Complaint as follows:

**Attention:** [insert full name of person, if applicable]

**Title/position:** [insert title/position]

**Agency:** [insert name of Employer]

**Email address:** [insert email address]

**Fax number:** [insert fax number] **delete if not used**

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

Further information:

For more information see Part B of the Operations Procurement Manual. In summary, there are four essential requirements:

1. You must be an 'interested party'. In this case, that means a Bidder who submitted a Bid in this bidding process, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the period stated above.
4. You must include, in your complaint, all necessary information

## 6. Standstill Period

**DEADLINE:** The Standstill Period is due to end at midnight on [insert date] (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended as stated in Section 4 above.

If you have any questions regarding this Notification, please do not hesitate to contact us.

On behalf of the Employer:

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

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

**Title/position:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

## Beneficial Ownership Disclosure Form

***INSTRUCTIONS TO BIDDERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM***

*This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful Bidder. In case of joint venture, the Bidder must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.*

*For the purposes of this Form, a Beneficial Owner of a Bidder is any natural person who ultimately owns or controls the Bidder by meeting one or more of the following conditions:*

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder*

**RFB No.:** [insert number of RFB process]

**Request for Bid No.:** [insert identification]

**To:** [insert complete name of Employer]

In response to your request in the Letter of Acceptance dated [insert date of letter of Acceptance] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

(i) we hereby provide the following beneficial ownership information.

**Details of beneficial ownership**

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Bidder (Yes / No)
[include full name (last, middle, first), nationality, country of residence]			

**OR**



(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder

**OR**

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Bidder shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Bidder]

**Name of the Bidder:** *\*[insert complete name of the Bidder]*

**Name of the person duly authorized to sign the Bid on behalf of the Bidder:** *\*\*[insert complete name of person duly authorized to sign the Bid]*

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

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

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

\* In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder. In the event that the Bidder is a joint venture, each reference to "Bidder" in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

\*\* Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

## Letter of Acceptance

*[letterhead paper of the Employer]*

*[date]*

To: *[name and address of the Contractor]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Bidders, is hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security and an Environmental and Social Performance Security ***[Delete ES Performance Security if it is not required under the contract]*** within 28 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms and the ES Performance Security Form, ***[Delete reference to the ES Performance Security Form if it is not required under the contract]*** and (ii) the additional information on beneficial ownership in accordance with BDS ITB 47.1, within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, Contract Forms, of the bidding document.

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

Name and Title of Signatory: \_\_\_\_\_

Name of Agency: \_\_\_\_\_

## Attachment: Contract Agreement

## Contract Agreement

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, between \_\_\_\_\_ of \_\_\_\_\_ (hereinafter "the Employer"), of the one part, and \_\_\_\_\_ of \_\_\_\_\_ (hereinafter "the Contractor"), of the other part:

WHEREAS the Employer desires that the Works known as \_\_\_\_\_ should be executed by the Contractor, and has accepted a Bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
  - (a) the Letter of Acceptance;
  - (b) the Letter of Bid;
  - (c) the addenda Nos \_\_\_\_\_ (if any);
  - (d) the Particular Conditions;
  - (e) the General Conditions;
  - (f) the Specification;
  - (g) the Drawings; and
  - (h) the completed Schedules and any other documents forming part of the contract, including, but not limited to:
    - i. the ES Management Strategies and Implementation Plans; and
    - ii. Code of Conduct for Contractor's Personnel (ES);
3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of \_\_\_\_\_ on the day, month and year specified above.

Signed by \_\_\_\_\_ (for the Employer)

Signed by \_\_\_\_\_ (for the Contractor)

## Performance Security: Option 1: Demand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[insert name and Address of Employer]*

**Date:** \_\_\_\_\_ *[Insert date of issue]*

**Performance Guarantee No.:** \_\_\_\_\_

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that \_\_\_\_\_ (hereinafter called "the Applicant") has entered into Contract No. \_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of Civil Works for the Multinational Nacala Road Corridor Development Project Phase –V: Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008) Road section (hereinafter called "the Contract"). Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant to issue this guarantee, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_),<sup>1</sup> such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2...<sup>2</sup>, and any demand for payment under it must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

\_\_\_\_\_  
*[signature(s)]*

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

<sup>1</sup> The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency(cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

<sup>2</sup> Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

## Performance Security: Option 2: Performance Bond

By this Bond \_\_\_\_\_ as Principal (hereinafter called "the Contractor") and \_\_\_\_\_] as Surety (hereinafter called "the Surety"), are held and firmly bound unto \_\_\_\_\_] as Obligee (hereinafter called "the Employer") in the amount of \_\_\_\_\_, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Contractor has entered into a written Agreement with the Employer dated the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, for \_\_\_\_\_ in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Employer to be, in default under the Contract, the Employer having performed the Employer's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or Bids from qualified Bidders for submission to the Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Employer and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by Employer to Contractor under the Contract, less the amount properly paid by Employer to Contractor; or
- (3) pay the Employer the amount required by Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.

In testimony whereof, the Contractor has hereunto set its hand and affixed its seal, and the Surety has caused these presents to be sealed with its corporate seal duly attested by the

signature of its legal representative, this \_\_\_\_\_ day of \_\_\_\_\_ 20  
\_\_\_\_\_.

SIGNED ON \_\_\_\_\_ on behalf of \_\_\_\_\_

By \_\_\_\_\_ in the capacity of \_\_\_\_\_

In the presence of \_\_\_\_\_

SIGNED ON \_\_\_\_\_ on behalf of \_\_\_\_\_

By \_\_\_\_\_ in the capacity of \_\_\_\_\_

In the presence of \_\_\_\_\_

# Environmental and Social (ES) Performance Security

## ES Demand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[insert name and Address of Employer]*

**Date:** *[Insert date of issue]*

**ES PERFORMANCE GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that \_\_\_\_\_ (hereinafter called "the Applicant") has entered into Contract No. \_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of Civil Works for the Multinational Nacala Road Corridor Development Project Phase –V: Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008) Road section (hereinafter called "the Contract"). Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant to issue this guarantee, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_),<sup>1</sup> such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its Environmental and/or Social (ES) obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2... 2, and any demand for payment under it must be received by us at this office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

\_\_\_\_\_  
*[signature(s)]*

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

<sup>1</sup> The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency (cies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

<sup>2</sup> Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

# Advance Payment Security

## Demand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** \_\_\_\_\_ *[Insert name and Address of Employer]*

**Date:** \_\_\_\_\_ *[Insert date of issue]*

**ADVANCE PAYMENT GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that \_\_\_\_\_ (hereinafter called "the Applicant") has entered into Contract No. \_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of Civil Works for the Multinational Nacala Road Corridor Development Project Phase –V: Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008) Road section (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum \_\_\_\_\_ (\_\_\_\_\_) is to be made against an advance payment guarantee.

At the request of the Applicant to issue this guarantee, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_) <sup>1</sup> upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
- (a) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number \_\_\_\_\_ at \_\_\_\_\_.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or

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<sup>1</sup> The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.



on the \_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_,<sup>2</sup> whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

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*[signature(s)]*

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

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<sup>2</sup> *Insert the expected expiration date of the Time for Completion. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

# Retention Money Security

## Demand Guarantee

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** \_\_\_\_\_ *[Insert name and Address of Employer]*

**Date:** \_\_\_\_\_ *[Insert date of issue]*

**RETENTION MONEY GUARANTEE No.:** \_\_\_\_\_ *[Insert guarantee reference number]*

**Guarantor:** \_\_\_\_\_ *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that \_\_\_\_\_ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. \_\_\_\_\_ *[insert reference number of the contract]* dated \_\_\_\_\_ with the Beneficiary, for the execution of Civil Works for the Multinational Nacala Road Corridor Development Project Phase –V: Rehabilitation of Nsipe-Chingeni-Liwonde (M001/M008) Road section (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of *[insert the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if required, the ES Performance Security]* is to be made against a Retention Money guarantee.

At the request of the Applicant to issue this guarantee, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ *[insert amount in figures] (\_\_\_\_\_ [amount in words])*<sup>1</sup> upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Applicant on its account number \_\_\_\_\_ at \_\_\_\_\_ *[insert name and address of Applicant's bank]*.

\_\_\_\_\_

<sup>1</sup> The Guarantor shall insert an amount representing the amount of the second half of the Retention Money or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money, the difference between half of the Retention Money and the amount guaranteed under the Performance Security and denominated either in the currency(ies) of the second half of the Retention Money as specified in the Contract, or in a freely convertible currency acceptable to the Beneficiary.

This guarantee shall expire no later than the .... Day of ....., 2...<sup>2</sup>, and any demand for payment under it must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

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*[signature(s)]*

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

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<sup>2</sup> Insert the same expiry date as set forth in the performance security, representing the date twenty-eight days after the completion date described in GC Clause 11.9. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."