agriculture, land reform & rural development

Department:
Agriculture, Land Reform and Rural Development
REPUBLIC OF SOUTH AFRICA

Contract No.: DALRRD-RID-FS 003 (2021/2022)

A Tender for Category 4GB or higher CIDB Registered Contractors

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE.

Description of services, works or goods	Stipulated minimum threshold	Description of services, works or goods	Stipulated minimum threshold
Electrical Cables :		**Steel Construction Materials:**	
• Low Voltage	90%	• Fabricated Structural Steel	100%
		• Roof and Cladding	100%
		• Fasteners	100%
		• Frames	100%
		• Reinforcing Bars	100%

Name of Tenderer :_____

Name of duly authorised person: _____

Address :_____

_____

Tel. Number : _____

Cell number : _____

Fax number : _____

E-mail : _____

Receipt number : _____

ISSUED BY:

Director: Finance and Supply Chain Management
Department of Agriculture, Land Reform and Rural Development
Private Bag X 4376
Bloemfontein
9300

Tel: (051) 400 4200
Fax: (051) 430 2392

PREPARED BY:

Rural infrastructure Development

Private Bag X4376
Bloemfontein
9300

Tel: (051) 400 4200
Fax: (051) 430 2392

Contract No.: DALRRD-RID-FS 003 (2021/202022)

THE TENDER

FOR THE

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE ST.

CLOSING DATE: 03 December 2021

CLOSING TIME: 11h00

ISSUED BY:

Director: Finance and Supply Chain Management
Department of Agriculture, Land Reform and Rural Development
Private Bag X 4376
Bloemfontein
9300

Tel: (051) 400 4200
Fax: (051) 430 2392

PREPARED BY:

Rural infrastructure Development

Private Bag X4376
Bloemfontein
9300

Tel: (051) 400 4200
Fax: (051) 430 2392

CHECKLIST WHEN SUBMITTING BID PROPOSAL/DOCUMENT
TENDER NO: DALRRD-RID-FS 003 (2021/2022)

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE

A TENDER FOR CATEGORY 4GB OR HIGHER REGISTERED CONTRACTORS
ENSURE THAT PRIOR TO SUBMITING THE TENDER TO THE DEPARTMENT THE FOLLOWING INFORMATION IS COMPLETED AND ATTACHED

Please indicate **YES** or **NO** ✓ Place a Tick in the appropriate column	**YES**	**NO**
Indicate / Attach CRS printout from CIDB (in case of JV, ENSURE THAT THE LEAD PARTNER'S AS WELL AS JV PARTNERS CRS NUMBERS ARE INDICATED ON THE FORM (printouts may be submitted as well)		
Signed Letter of authority on Company Letterhead is attached		
CSD Supplier Number and Tax compliance PIN numbers in case of Bidder only / Consortia / JV: Did bidder submit CSD Supplier Number and Tax compliance PIN numbers of the Bidder / Consortia / JV Partners? ***OR*** **An valid Tax Clearance Certificate : In the case of Bidder/ Consortia/JV:** Did bidder submit an and valid tax clearance certificate		
B-BBEE Certificate IN Cases of Joint Ventures submit CONSOLIDATED CERTIFICATE		
B-BBEE Certificate: In the case of Bidder/ Consortia/JV:		
CSD Supplier Number and Tax compliance PIN numbers if Bidder is Sub-Contracting: Did bidder submit CSD Supplier Number and Tax compliance PIN numbers for the subcontracting companies? ***OR*** **A valid Tax Clearance Certificate : If Bidder is Sub-Contracting** Did bidder submit an and valid tax clearance certificate for the subcontracting companies		
Submit **B-BBEE Certificate for Sub-contracting companies/Certified Copy/Original/SwornAffidavid**		
Attendance of a compulsory meeting		
Did you Tamper with the document		
Used correction fluid		
Are mistakes made on the prices/form of offer inclusive of vat crossed out in ink and altered on each and every price		
Is the form of offer fully completed and signed by the authorized signatory		
Local content (**SBD 6.2**) form is completed and all annexures are completed (if applicable)		
Are all addenda issued completed and returned (if applicable)		

DOCUMENT LAYOUT

SECTION	HEADING	COLOUR
PART 1: THE TENDER		
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PART T2	**RETURNABLE DOCUMENTS** SECTION T2.1: LIST OF RETURNABLE DOCUMENTS SECTION T2.2: RETURNABLE SCHEDULES	 YELLOW YELLOW
PART 2: THE CONTRACT		
PART C1:	**AGREEMENT AND CONTRACT DATA** SECTION C1.1: FORM OF OFFER AND ACCEPTANCE SECTION C1.2: CONTRACT DATA SECTION C1.3: CONSTRUCTION GUARANTEE (PRO-FORMA) SECTION C1.4: OCCUPATIONAL HEALTH AND SAFETY AGREEMENT BETWEEN EMPLOYER AND CONTRACTOR	 YELLOW YELLOW WHITE WHITE
PART C2:	**PRICING DATA** SECTION C2.1: PRICING INSTRUCTIONS SECTION C2.2: BILLS OF QUANTITIES	 YELLOW YELLOW
PART C3:	**SCOPE OF WORKS** SECTION C3.1: DESCRIPTION OF WORKS SECTION C3.2: ENGINEERING SECTION C3.3: PROCUREMENT SECTION C3.4: CONSTRUCTION SPECIFICATION	 BLUE BLUE BLUE BLUE
PART C4:	**SITE INFORMATION** SECTION C4.1: SITE LOCALITY PLAN SECTION C4.2: PROJECT LOCALITY PLAN SECTION C4.3: ACCESS TO SITE	 WHITE WHITE
PART C5:	**ANNEXURES** SECTION C5.1: PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION SECTION C5.2: ENVIRONMENTAL MANAGEMENT PLAN SECTION C5.3: ELECTRICAL BILL AND SPECIFICATIONS SECTION C5.4: PHOTOS SECTION C5.5: CONTRACT DRAWINGS, FINISHING SCHEDULES & PAINT SPEC.	 WHITE WHITE YELLOW WHITE WHITE

THE TENDER

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PART T1: TENDERING PROCEDURES

For a proposed contract between **Department of Agriculture, Land Reform and Rural Development (the Employer)**

and

_____

(the Contractor)

for **THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE**

Documentation prepared by:

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT (RID-FS).

SECTION T1.1: TENDER NOTICE AND INVITATION TO TENDER

FOR: THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE

CONTRACT/TENDER NO.: DALRRD-RID-FS 003 (2021/2022)

The proposed works consist, in general terms,

CONDITIONS:

Bidders shall be registered with the Construction Industry Development Board (CIDB) and should have a minimum CIDB Contractor grading of **4GB** or higher.

Preferential Procurement Policy Framework Act (PPPFA), Act no. 5 of 2000 and its associated Regulations of 2017. The **80/20** Preference Point system will be applied where a maximum of Eighty (80) tender adjudication points will be awarded for price and Twenty (20) points will be awarded for preference.

The stipulated minimum threshold(s) for local production and content for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold	Description of services, works or goods	Stipulated minimum threshold
Electrical Cables :		**Steel Construction Materials:**	
• Low Voltage	90%	• Fabricated Structural Steel	100%
		• Roof and Cladding	100%
		• Fasteners	100%
		• Frames	100%
		• Reinforcing Bars	100%

Bid documents shall be made available on the **11 November 2021**, from one of the offices listed below during the following hours: Monday to Friday 08h30 to 12h45 and 13h30 to 16h00. No documents will be available or issued at the Briefing Session and should, therefore, be collected timeously beforehand.

Department of Agriculture, Land Reform and Rural Development:

Mr. T . Makitle
136 Charlotte Maxeke Street
SA Eagle Building
Bloemfontein
9300
Email: Teboho.Makitle@dalrrd.gov.za

Tel: (051) 400 4200

A non-refundable bid fee of **R 200, 00** (One hundred rand) per set of documents, is payable by cash only.
A **Compulsory Tender Briefing/ Site Inspection meeting** will be conducted at **11h00** on **18 November 2021**. All bidders will meet at: If driving from ***Bethlehem towards Harrismith***, travel for 68 km from Frontier Hotel and Casino. The site (a big warehouse) will be about 400 m to the right, off N5. If driving ***from Harrismith towards Bethlehem***, travel for 20km from Harrismith Inn. The site will be about 400 m to the left, off N5.

GPS Coordinates: 28°17'18.7"S 28°56'48.9"E

Closing date and time for the receipt of completed bid documents are **03 December 2021 at 11h00.**

Tenders must remain valid for a period of **90** Calendar Days and **120** Calendar Days for tenders closing in October, November and December; after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Department.
The original and completed bid document shall be placed in a sealed envelope clearly marked:

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE

SUBMITTING OF TENDERS – PLEASE NOTE: Tenders can only be submitted in the Tender Box in BLOEMFONTEIN.

Tenders will be received on the closing date and time shown above. All tenders must be enclosed in sealed envelopes bearing the applicable tender heading and contract number, as well as the closing time and due date, and must be addressed to the **DIRECTOR: FINANCE AND SUPPLY CHAIN MANAGEMENT, DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT**, and must be submitted in the tender box situated at :

Department of Agriculture, Land Reform and Rural Development
136 Charlotte Maxeke Street
SA Eagle Building
Ground Floor
Bloemfontein
9300

No telephonic or any other form of communication relating to this bid will be permitted with any other staff by bidders other than with the named individuals stated below.

All enquiries regarding this bid must be directed to:

ENQUIRIES – TECHNICAL RELATED:

Ms Lineo Khama
Tel: 051 400 4200
Fax: -
Cell: 082 827 5982
E-mail: Lineo.Khama@dalrrd.gov.za

OR

Me. Maipato Sakhele
Tel: 051 400 4200
Fax: -
Cell: 079 893 7381
Email: Maipato.Sakhele@dalrrd.gov.za or Maipato.Nkomo@dalrrd.gov.za

ENQUIRIES – SUPPLY CHAIN MANAGEMENT RELATED:

Mr Teboho Makitle
Tel: 051 400 4200
Fax: 086 536 6113
Email: Teboho.Makitle@dalrrd.gov.za

Bids will be opened in public. No late submissions will be considered. Telegraphic, telexed, facsimiled or e-mail submissions will not be accepted. Failure to meet the **mandatory requirements** required in this Bid will result in the submissions being deemed null and void and shall be considered non-responsive.

BID BOX INFORMATION

TENDER NO.: **DALRRD-RID-FS 003 (2021/2022)** CLOSING DATE: **03 December 2021**

YOU ARE HEREBY INVITED TO BID TO THE GOVERNMENT OF THE REPUBLIC OF SOUTH AFRICA (DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT)

BIDS RECEIVED AFTER THE CLOSING TIME AND DATE ARE LATE AND WILL AS A RULE NOT BE ACCEPTED FOR CONSIDERATION.

SUBMIT ALL BIDS ON THE OFFICIAL FORMS - DO NOT RETYPE

Bid documents **must** be deposited in the box which is identified as the bid box of the:

Department of Rural Development & Land Reform –
136 CHARLOTTE MAXEKE STREET
SA EAGLE BUILDING
GROUND FLOOR
BLOEMFONTEIN
9300

THE BID BOX OF THE OFFICE OF THE DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT IS OPEN 24 HOURS A DAY, 7 DAYS A WEEK. THE BID BOX WILL BE CLOSED ON THE CLOSING TIME OF BIDS WHICH IS 11H00.

BIDDERS SHOULD ENSURE THAT BIDS ARE DELIVERED TIMEOUSLY TO THE CORRECT ADDRESS

SUBMIT EACH BID IN A SEPARATE SEALED ENVELOPE

***Note:** Any reference to words "Bid" or "Bidder" herein and/or in any other documentation shall be constructed to have the same meaning as the words "Tender" or "Tenderer"

SECTION T1.2: TENDER DATA

SECTION T1.2.1: CONDITIONS OF TENDER

This edition incorporates the amendments made in Board Notice 136 of 2015 in Government Gazette 38960 of 10 July 2015 and erratum notices issued thereafter.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

SECTION T1.2.2: TENDER DATA

The clause numbers in the Tender Data refer to the corresponding clause numbers in the Conditions of Tender.

The additional Conditions of Tender are:

Item		Data
F.1	**GENERAL**	**ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER**
F.1.1	**Actions**	The Employer is the "Department of Agriculture, Land Reform and Rural Development". The term "bid" in the context of this standard is synonymous with term "tender".
F.1.2	**Tender Documents**	This document **(Volume 1)** in which are bound the Tendering Procedures, Returnable Documents, Agreements and Contract Data, Pricing Data, Scope of Works, Site Information and Drawings
F.1.3	**Interpretation**	Add the following new clause: "1.3.3" The tender documents have been drafted in English. The contract arising from the invitation of tender shall be interpreted and construed in English.
F.1.4	**Communication and Employer's Agent:**	
	The *Employer's Agent* is:	**Department of Agriculture, Land Reform and Rural Development** **Contact : Lineo Khama** **Address** :136 Charlotte Maxeke Street Bloemfontein 9301

Item		Data
		Tel No. : (051) 400 4200 **Cell No.** : 0828275982 **Fax No.** : **E-mail** : Lineo.Khama@dalrrd.gov.za
F.2	**TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER**	
F.2.1	**Eligibility:**	Only those Tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **4GB** or Higher Class of construction work, are eligible to submit tenders. Joint ventures are eligible to submit tenders provided that they comply with all three of the following conditions: 1. Every member of a joint venture is registered with the CIDB. 2. The lead partner has a contractor grading designation of **not lower than one level below** the required grading designation of **4GB** of construction work. 3. The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor designation determined in accordance with the sum tendered for a **4GB** class of construction work, is eligible to submit tenders.
F.2.2	**Cost of Tendering:**	Add the following to the clause: "Accept that the Employer will not compensate the tenderer for any costs incurred in attending interviews in the office of the Employer or the Employer's Agent."
F.2.5	**Reference documents:**	The document "***JBCC Series 2000 Principal Building Agreement (March 2014 edition 6.1)***". Tenderers, Contractors and Sub-contractors shall obtain their own copies of this document for tendering purposes and for use for the duration of the Contract. Copies of these documents may be obtained from the Association of South African Quantity Surveyors (011-315 4140), the Master Builders Association (011-205 9000), the South African Association of Consulting Engineers (011-463 2022) or the South African Institute of Architects (011-486 0684).
F.2.7	**Clarification meeting:**	The arrangements for a compulsory clarification meeting are as stated in the Tender Notice and Invitation to Tender. Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list and paid for Bid Documents

Item		Data
F.2.8	**Seek clarification:**	"Request clarification of the tender documents, if necessary, by notifying the Employer's Official or the Employer's Agent indicated in the Tender Notice and Invitation to Tender in writing at least 7 (seven) calendar days before the closing time stated in the foregoing notice and clause 2.15."
F.2	**TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER**	
F.2.9	**Insurance:**	Add the following to the clause: "Accept that the submission of a Tender shall be construed as an acknowledgement by the Employer that he/she is satisfied with the insurance cover that the Contractor will have to effect Contract Works Insurance to be limited to the Tender amount including VAT plus 25%, and Public Liability to be limited to R 7 000 000 under the contract. The contractor must ensure that any damage to the existing building (e.g. structural) be included in his Public Liability insurance. The Employer will not provide for any insurance as it will be provided for by the Contractor.
F.2.11	**Alterations to documents:**	**Add the following to the clause:** **"In the event of mistakes having been made on the form of offer inclusive of VAT it must be crossed out in ink at each and every price alteration on the form of offer and be accompanied by an initial.** Corrections in terms of price must not be made by means of a correction fluid such as Tipp-Ex or similar product. If correction fluid has been used on any specific item price, such item will not be considered. No correction fluid must be used in a Bill of Quantities where prices are calculated to arrive at a total amount. If correction fluid has been used the Tender as a whole will not be considered. Tampering with or taking apart the bound document is strictly prohibited. **All additional documentation must be stapled into the tender document or attached in a separate file."** **The Department will reject the bid if the above conditions are not adhered to.**
F.2.13	**Submitting a tender offer**	
	F.2.13.1	Each Tenderer is required to return the complete set of documents as listed in the Tender Data with all the required information supplied and completed in all respects.
	F.2.13.2	Return all returnable documents to the employer after completing them in their entirety, by writing legibly in non-erasable ink. Failure to adhere to this the bid will be disqualified.
	F.2.13.3	Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English.

F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
	F.2.13.4	Add the following to the clause: "Only duly authorised signatories must sign the original and all copies of the tender offer where required in terms of 2.13.3. In the case of a **ONE-PERSON CONCERN** submitting a tender, this shall be clearly stated on the company letter head. In case of a **COMPANY** submitting a tender, include a copy of a resolution by its board of directors authorising a director or other official of the company to sign the documents on behalf of the company. In the case of a **CLOSED CORPORATION** submitting a tender, include a copy of a resolution by its members authorising a member or other official of the corporation to sign the documents on each member's behalf. In the case of a **PARTNERSHIP** submitting a tender, all the partners shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case proof of such an authorisation shall be included in the Tender. In the case of a **JOINT VENTURE** submitting a tender, must include a resolution of each company of the Joint Venture together with a resolution by its members authorising a member of the Joint Venture to sign the documents on behalf of the Joint Venture." **Accept that failure to submit proof of Authorisation to sign the tender shall result in a Tender Offer being regarded as non-responsive**
	F.2.13.5	The Employer's address for delivery of tender offers: **Department of Agriculture, Land Reform and Rural Development** Provincial Shared Service Centre Ground Floor 136 Charlotte Maxeke Street Department of Agriculture, Land Reform and Rural Development Bloemfontein 9300
	F.2.13.6	A two-envelope procedure will NOT be followed.
	F.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.

F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.2.14	**Information and Data to be completed in all respects:**	Add the following to the clause: "Accept that the Employer shall in the evaluation of tenders take due account of the Tenderer's past performance in executing for similar works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and Principal Agent as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, by furnishing details in **Section T2.2**. Accept that the Employer is restricted in accordance with clause 4.(4) of the Construction Regulations, 2014, to only appoint a contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely.
F.2.15	**Closing time:**	The closing date and time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	**Tender offer validity:**	The tender offer validity period is **90** calendar days. For tenders closing in October, November and December the tender validity period is **120** calendar days. Add the following to the clause: "If the tender validity expires on a Saturday, Sunday or public holiday, the Tender Offer shall remain valid and open for acceptance until the closure of business on the following working day."
F.2.17	**Clarification of tender offer after submission**	The Tenderer shall provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of arithmetical errors by the adjustment of certain rates or items prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.
F.2.18	**Provide other material**	The Tenderer shall provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), referencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.
F.2.19	**Inspections, tests and analysis:**	The Tenderer must provide access during working hours to his premises for inspections on request.
F.2.20	**Submit securities, bonds and policies:**	If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2	TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.2.23	**Certificates:**	The following certificates/ information may be provided with the tender offer: a) Copy of Certificate of Incorporation (if tenderer is a Company), e.g. CM1, CM29, or CM44 b) Copy of Founding Statement (if tenderer is a Closed Corporation), e.g. CK1, or CK2 c) Copy of Partnership Agreement (if tenderer is a Partnership) d) Copy of Identity Document (if tenderer is a One-man concern) e) Copy of Deed of Trust (If a trust is involved). In cases where the tenderer has failed to submit any of the documents above with the tender, the Department reserves the right to, at any time after the closure of the tender, but before the award of the tender, request the tenderer to provide the outstanding documents within 5 (five) calendar days from the date of notification.
ADD THE FOLLOWING NEW CLAUSES:		
"2.24	**Canvassing and obtaining of additional information by tenderers:**	Accept that no Tenderer shall make any attempt either directly or indirectly to canvass any of the Employers officials or the Employer's agent in respect of his tender, after the opening of the tenders, but prior to the Employer arriving at a decision thereon. No Tenderer shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders."
"2.26	**Awards to close family members of persons in the service of the state**	In order to adjudicate fairness or eligibility, the questionnaire for the declaration of interests in the tender of persons in service of state in **Section T2.2.5 – Form E** must be completed."

F.2	**TENDERER'S OBLIGATIONS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER**	
"2.28	**TAX COMPLIANCE**	Bidders must ensure compliance with their tax obligations. Bidders are required to submit their unique personal identification number (PIN) issued by sars to enable the organ of state to view the taxpayer's profile and tax status. Application for tax compliance status (TCS) or pin may also be made via e-filing. in order to use this provision, taxpayers will need to register with SARS as e-filers through the website www.sars.gov.za. Bidders may also submit a printed TCS together with the bid. In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate proof of TCS / PIN / CSD number. Where no TCS is available but the bidder is registered on the central supplier database (CSD), a CSD number must be provided.
"F.2.29	**CSD –National Treasury Central Supplier Database (CSD) Registration**	Bidders must register on the central supplier database (CSD) to upload mandatory information namely: (business registration/directorship/ membership/identity numbers; tax compliance status; and banking information for verification purposes). B-BBEE certificate or sworn affidavit for B-BBEE must be submitted to bidding institution. Where a bidder is not registered on the CSD, mandatory information namely: (business registration/ directorship/ membership/identity numbers; Tax compliance status should be submitted with the bid documentation. B-BBEE certificate or sworn affidavit for B-BBEE must be submitted to bidding institution."
"F.2.30	**Local Labour**	It is a requirement of this contract that work be executed in such a manner so as to maximise the use of local labour intensive construction methods."
F.3	**THE EMPLOYER'S UNDERTAKINGS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER**	
F.3.1	**Respond to requests from the Tenderer:**	Replace the contents of the clause with the following: "Respond to a request for clarification received up to seven (5) calendar days before the tender closing time stated in the tender data and notify all Tenderers who drew procurement documents"
F.3.2	**Issue Addenda:**	If necessary, issue addenda that may am end or amplify the tender documents to each tenderer during the period from the date that tender documents are available until five (5) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3	THE EMPLOYER'S UNDERTAKINGS ADDITION OR VARIATION TO STANDARD CONDITION OF TENDER	
F.3.3	**Return late tender offers**	Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.
F.3.4	**Opening of tender submissions:**	The closing date and time for receipt of tenders is: **03 December 2021 at 11h00.** Tenders will be received on the closing date and time shown, must be enclosed in a sealed envelope bearing the applicable tender heading and contract number, as well as the closing time and due date, and must be addressed to the: **CHIEF DIRECTOR: SUPPLY CHAIN AND FACILITIES MANAGEMENT SERVICES:** **DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT.** Tenders **must** be submitted in the tender box situated **in Bloemfontein** : **Department of Agriculture, Land Reform and Rural Development** **136 Charlotte Maxeke Street** **SA Eagle Building** **Bloemfontein** **9300** Only tenders submitted to this tender box will be opened/ considered. Valid tender submissions shall be opened in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.11 **Evaluation of Tenders:**

The tender evaluation method to evaluate all responsive tender offers will be Method 2.

Tenderers will be evaluated as per the Preferential Procurement Regulation 8(1) which prescribes that only locally produced goods, service or works locally manufactured goods with a stipulated minimum threshold(as indicated in SBD 6.2) for local production and content will be considered.

LOCAL CONTENT AND MINIMUM THRESHOLD:

Description of services, works or goods	Stipulated minimum threshold	Description of services, works or goods	Stipulated minimum threshold
Electrical Cables :		**Steel Construction Materials:**	
• Low Voltage	90%	• Fabricated Structural Steel	100%
		• Roof and Cladding	100%
		• Fasteners	100%
		• Frames	100%
		• Reinforcing Bars	100%

Apply the **80/20** Preference Point system where a maximum of eighty **(80) points** for tender adjudication point be awarded for price. **Twenty (20)** points will be awarded for preference in terms of the Preferential Procurement Policy Framework Act (Act 5 of 2000) and Preferential Procurement Regulation, 2017. See section T2.2.2, Form B for the Preference model.

The financial offer will be scored in terms of formula 2, option 1 of the Standard Conditions of Tender (Section T1.3 of the document).

Bidders must submit original and valid B-BBEE Status Level Verification Certificate or certified copies thereof, issued by accredited Verification Agencies by SANAS or Registered Auditor approved by Independent Regulatory Board of Auditor (IRBA) OR certified Sworn B-BBEE Affidavit signed by the Commissioner of Oaths. The exempted Micro Enterprise must submit a letter from the Accounting Officer who is appointed in terms of Close Corporation Act. Bidders who do not submit B-BBEE Status Level Verification Certificate or are non-compliant to be B-BBEE do not qualify for preference points for B-BBEE.

The CRITERIA to be applied in evaluating the proposal is set out in the table below:
Not attached-0; Poor-1; Average-2; Good-3; Very Good-4; Excellent-5

QUALITY CRITERIA				
NO.	**CRITERIA**	**WEIGHT**	**INDICATE VALUE**	**TOTAL**
1	**WORK CARRIED OUT BY THE TENDERER** Successful completion of similar projects in the last five (5) years from a minimum value of R 2 500 000.00. *Attach completion certificate(s) together with appointment letters. (No score will be awarded if certificates are not attached).* **Note: Returnable Document = FORM J**	**30**		
2	**PROPOSED KEY PERSONNEL – SITE AGENT** Site Agent with NQF 6 Qualification or higher in Built Environment: CV and certified copies of qualifications must be attached *(No score will be awarded if CV and certified copies are not attached).* **Note: Returnable Document = FORM L**	**30**		
3	**PROPOSED KEY PERSONNEL: FOREMAN** Foreman: *CV must be attached. (No score will be awarded if CV is not attached)* **Note: Returnable Document = FORM L**	**25**		
4	**PRELIMINARY CONSTRUCTION PROGRAMME** Submission of the following comprehensive construction programme indicating all work flow items. **Note: Returnable Document = FORM O**	**15**		
Total		**100**		

The proposal will be evaluated individually on score sheets, by a representative evaluation panel according to the evaluation criteria indicated above. All service providers who scored less than **60** out of **100** points for functionality will not be considered further. See section T2.2.9, Form I Quality/Functionality Criteria

<table>
<tr><th colspan="5">QUALITY CRITERIA</th></tr>
<tr><th>NO.</th><th>CRITERIA</th><th>WEIG-HT</th><th>INDICATE VALUE</th><th>TOTAL</th></tr>
<tr><td>1</td><td>SUCCESSFUL COMPLETION OF SIMILAR PROJECTS IN THE LAST FIVE (5) YEARS FROM A MINIMUM VALUE OF R 2 500 000.00. ATTACH COMPLETION CERTIFICATES. (NO SCORE WILL BE AWARDED IF COMPLETION CERTIFICATES ARE NOT ATTACHED)

Tenderers are required to demonstrate relevant past experience and competency. Tenderers are required to submit full details of, and reliable contactable references for, relevant project which were successfully completed. Projects relevant must be of similar scope, nature and size, completed within the last five (5) years.

Successful completion of similar fencing projects in the last 5 years.

<table>
<tr><td>Not attached (score 0)</td><td>The tenderer has failed to address the question and has not provided any proof of completing a similar project.</td></tr>
<tr><td>Poor (score 1)</td><td>One (1) relevant similar project executed successfully by the contractor in the past 5 years</td></tr>
<tr><td>Average (score 2)</td><td>Two (2) relevant similar projects successfully executed by the contractor in the past 5 years</td></tr>
<tr><td>Good (score 3)</td><td>Three(3) relevant similar projects successfully executed by the contractor in the past 5 years</td></tr>
<tr><td>Very Good (score 4)</td><td>Four(4) relevant similar project successfully executed by the contractor in the past 5 years</td></tr>
<tr><td>Excellent (score 5)</td><td>More than five(5) relevant similar projects successfully executed by the contractor in the past 5 years</td></tr>
</table>

Note: Returnable Document = FORM J</td><td>30</td><td></td><td></td></tr>
</table>

2	**EXPERIENCE OF SITE AGENT** This Sub Criteria covers the general average experience of the proposed Site Agent (total duration of professional activity at Site Agent level). Tenderers are required to submit curriculum vitae for the key personnel proposed to be employed on the project. This curriculum vitae are to include specific details of these individuals including past experience and competence in delivering key similar relevant building project and NQF 6 Qualification or higher. This evaluation is based on the following weighting: **(CV and a certified copy of qualifications must be attached).** **NB : No score will be awarded to bidder who has not attached CV and certified copies).**	**30**		

Not attached (score 0)	No CV Submitted. No qualification attached.
Poor (score 1)	More than 1 to 2 years' experience as Site Agent
Average (score 2)	More than 2 to 4 years' experience as Site Agent
Good (score 3)	More than 4 to 6 years' experience as Site Agent
Very Good (score 4)	More than 6 to 8 years' experience as Site Agent
Excellent (score 5)	More than 8 years' experience as Site Agent

3	**EXPERIENCE OF FOREMAN** This Sub Criteria covers the general average experience of the proposed Foreman (total duration of professional activity at Construction Manager Site Agent level) . Tenderers are required to submit curriculum vitae for the Foreman proposed to be employed on the project. These curriculum vitae are to include specific details of these individuals including past experience and competence in delivering key similar relevant building project .This evaluation is based on the following weighting: (CV to be attached) **NB : No score will be awarded to bidder who has not attached a CV** **Note: Returnable Document = FORM L**	**25**		

Not Submitted (score 0)	No CV Submitted
Poor (score 1)	More than 2 to 5 year experience as a site agent
Average (score 2)	More than 5 to 8 years experience as a site agent
Good (score 3)	More than 8 to 11 years experience as a site agent
Very Good (score 4)	More than 11 to 14 years experience as a site agent
Excellent (score 5)	14 years and above as foreman

5	**CONSTRUCTION PROGRAMME** Submission of the following comprehensive construction programme indicating all work flow items in relation to reaching listed project deliverables on time. **Note: Returnable Document = FORM O**	**15**		

Not attached (score 0)	No programme attached.
Poor (score 1)	The programme is poorly compiled and there are major inconsistencies with timing of project deliverables.
Average (score 2)	The programme omits important tasks or the timing of the activities and correlation among them are inconsistent with project deliverables. There is a lack of clarity and logic in the sequence.
Good (score 3)	All key activities are included in the programme, but are not detailed. There are minor inconsistencies between timing and project deliverables.
Very Good (score 4)	All key activities are included and well detailed in the programme. There are no inconsistencies between timing and project deliverables.
Excellent (score 5)	The programme fits the project deliverables well; all important activities are indicated in the programme and their timing and sequencing is appropriate and consistent with project objectives and requirements. There is an excellent degree of detail with links that facilitates understanding of the proposed programme.

F.3.13	**Acceptance of tender offer:**	Tender offers will only be accepted if: a) a)The Tenderer submits a duly signed and dated relevant resolution signed by all their members or their board of directors, as the case may be, on their company letterhead. In the case of a sole proprietor or a single member in a company, it must be clearly indicated on a document bearing the company's letterhead. In the case of a joint venture submitting a tender, must include a resolution of each company of the Joint Venture signed by all the members/ directors of the Joint Venture authorising a member or an official of the Joint Venture to sign the documents on behalf of the Joint Venture OR a resolution bearing the letterheads (logos) of each company of the Joint Venture and signed by all the members/ directors of the Joint Venture authorizing a member or an official of the Joint Venture to sign the documents on behalf of the Joint Venture shall be included in the tender. **OR** **BIDDERS CAN MAKE USE OF (FORM PA-15.1 – 15.3)** A resolution, PA-15.1 (for a single Service Provider tendering herein) or PA-15.2 plus special resolution, PA-15.3 (for multiple Service Providers tendering in consortium or joint venture herein) (forms PA-15.1 to 3 are bound in hereafter). **(Bidders can write the letter of authority or use the PA forms)** b) The Tenderer submits a valid Tax Clearance Certificate issued by the South Africa Revenue Service or their unique personal identification number (PIN) issued by SARS to enable the organ of state to view the taxpayer's profile and tax status. In the case of a JV all parties must submit a separate proof of TCS / PIN / CSD number. c) The Tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation. Proof of Registration in respect of each partner, where a tenderer satisfied the CIDB contractor grading designation requirements through the formation of a joint venture. The Lead partner must have a contractor grading designation of not lower than one level below the required grading designation; d) The Bidder did not tamper, dismantle or remove any documents from the tender document. e) The Tenderer has acknowledged and signed the record of addenda page, and submitted the addendum or addenda, in the event that the addendum or addenda has been issued. f) The Tenderer has attended the compulsory tender clarification meeting as stipulated. g) The Tenderer has completed the form of offer and is signed by the duly authorized person. h) The Tenderer submits a letter from the bank or a FAIS (Financial Advisory and Intermediary Services) / FSCA (Financial Sector Conduct Authority) registered or NCR (National Credit Regulator) registered financial institution with whom he/she has made the necessary arrangements, to the effect that the said institution will be prepared to provide the required performance guarantee. i) The Tenderer is registered and in good standing with respect to Compensation for Occupational Injuries and Diseases Act (COIDA) for Building Construction, with Department of Labour or with a licensed compensation insurer. The Tenderer must submit the letter of good standing for Building Construction projects. In the event of the Tenderer being a joint venture/consortium, each company must submit the letter of good standing for building construction projects.

F.3.17	**Provide copies of the contract**	A Tenderer who presently do not have any labour in their employ must submit a Tender Letter obtainable from the Department of Labour. One signed copy of the contract shall be provided by the Employer to the successful Tenderer.

F.4	ADDITIONAL CONDITIONS OF TENDER
The additional conditions of Tender are:	
F.4.1	**Compliance with Occupational Health and Safety Act 1993** Tenderers are to note the requirements of the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2014 issued in terms of Section 43 of the Act. The Tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith. In this regard the **Contractor** shall submit, a detailed Health and Safety Plan in respect of the Works in order to demonstrate the necessary competencies and resources to perform the construction work all in accordance with the Act and Regulations. Such Health and Safety Plan shall cover inter-alia the following details: (1) Management Structure, Site Supervision and Responsible Persons including a succession plan. (2) Contractor's induction training programme for Employees, Sub-contractors and Visitors to the Site. (3) Health and safety precautions and procedures to be adhered to in order to ensure compliance with the Act, Regulations and Safety Specifications. (4) Regular monitoring procedures to be performed. (5) Regular liaison, consultation and review meetings with all parties. (6) Site security, welfare facilities and first aid. (7) Site rules and fire and emergency procedures.
	Tenderers are to note that the Contractor is required to ensure that all Sub-contractors or others engaged in the performance of the Contract also comply with the above requirements. The Contractor shall prepare and maintain a Health and Safety File in respect of the project, which shall be available for inspection on Site at all times and handed over to the Employer on Final Completion of the project. The Contractor is required to submit to the Employer the Occupational Health and Safety Agreement (included **in Part C1.4** of the Contract Document) and a letter of good standing from the Compensation Commissioner, or a licensed compensation insurer, within 14 days after the Commencement Date of the Contract.
F.4.2	**Community Liaison Officer** It is a requirement of the Contract that a Community Liaison Officer (CLO) be appointed by the Contractor. The primary functions of the CLO shall be to assist the Contractor with the selection and recruitment of targeted labour, to represent the local community in matters concerning the use of targeted labour (and/or enterprises) on the works, and to assist with and facilitate communication between the Contractor, the Principal Agent and the local communities. The method of identifying suitable candidates for the position of CLO, as well as requirements in respect of the employment of the selected candidate, are described in **Part C3.3.2: Scope of Work**.

CIDB STANDARD CONDITIONS OF TENDER

SECTION T1.2.3: CIDB STANDARD CONDITIONS OF TENDER

As published in Annex F of the CIDB Standard for Uniformity in Construction Procurement in Board Notice 136 Government Gazette No 38960 of 10 July 2015.

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F.1 GENERAL

F.1.1 Actions

F.1.1.1 The Employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.1.1.2 The Employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the Employer shall declare any conflict of interest to whomever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note:

1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

F.1.1.3 The Employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

F.1.3 Interpretation

F.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

a) **conflict of interest** means any situation in which:

i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially.

ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit.

iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.

b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis.

c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the Employer or his staff or agents in the tender process.

d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the Employer, including collusive practices intended to establish prices at artificial levels.

e) **organisation** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body.

f) **quality (functionality)** means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

F.1.4 Communication and Employer's agent

Each communication between the Employer and a tenderer shall be to or from the Employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The Employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the Employer's agent are stated in the tender data.

F.1.5 Cancellation and Re-Invitation of Tenders

F.1.5.1 An organ of state may, prior to the award of the tender, cancel a tender if-

a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or

b) funds are no longer available to cover the total envisaged expenditure; or

c) no acceptable tenders are received.

F.1.5.2 The decision to cancel a tender must be published in the cidb website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the Employer shall announce only the names of the tenderers who make a submission.

The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the Employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the Employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 **Option 1**

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The Employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 **Option 2**

F.1.6.3.2.1 Tenderers shall only submit technical proposals in the first stage. The Employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

F.1.6.3.2.2 The Employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

F.2 TENDERER'S OBLIGATIONS

F.2.1 Eligibility

F.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with Employer.

F.2.1.2 Notify the Employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the Employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the Employer's written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

F2.2.1 Accept that, unless otherwise stated in the tender data, the Employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

F2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

F.2.3 Check documents

Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the Employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

F.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

F.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the Employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarise themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the Employer at least five working days before the closing time stated in the tender data.

F.2.9 Insurance

Be aware that the extent of insurance to be provided by the Employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

F.2.10 Pricing the tender offer

F.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the tender data.

F2.10.2 Show VAT payable by the Employer separately as an addition to the tendered total of the prices.

F.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.

F.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

F.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the Employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

F.2.12.2 Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the Employer.

F.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

F.2.13 Submitting a tender offer

F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F.2.13.2 Return all returnable documents to the Employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the Employer.

F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The Employer will hold all authorised signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures, shall state which of the signatories is the lead partner whom the Employer shall hold liable for the purpose of the tender offer.

F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.

F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the Employer's address and identification details as stated in the tender data.

F.2.13.8 Accept that the Employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

F.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the Employer, unless stated otherwise in the tender data.

F.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the Employer as non-responsive.

F.2.15 Closing time

F.2.15.1 Ensure that the Employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

F.2.15.2 Accept that, if the Employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

F.2.16 Tender offer validity

F.2.16.1 Hold the tender offer(s) valid for acceptance by the Employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

F.2.16.2 If requested by the Employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

F.2.16.3 Accept that a tender submission that has been submitted to the Employer may only be withdrawn or substituted by giving the Employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

F.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with the packages clearly marked as "SUBSTITUTE".

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the Employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: Sub-clause F.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

F.2.18 Provide other material

F.2.18.1 Provide, on request by the Employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair risk assessment.

Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the Employer's request, the Employer may regard the tender offer as non-responsive.

F.2.18.2 Dispose of samples of materials provided for evaluation by the Employer, where required.

F.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.

F.2.20 Submit securities, bonds, policies, etc.

If requested, submit for the Employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

F.2.21 Check final draft

Check the final draft of the contract provided by the Employer within the time available for the Employer to issue the contract.

F.2.22 Return of other tender documents

If so instructed by the Employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

F.2.23 Certificates

Include in the tender submission or provide the Employer with any certificates as stated in the tender data.

F.3 THE EMPLOYER'S UNDERTAKINGS

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the Tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;

b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or

c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

F.3.4 Opening of tender submissions

F.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.

F.3.4.3 Make available the record outlined in F.3.4.2 to all interested persons upon request.

F.3.5 Two-envelope system

F.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

F.3.5.2 Evaluate the quality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the quality evaluation more than the minimum number of points for quality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for quality.

F.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

F.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

a) complies with the requirements of these Conditions of Tender,

b) has been properly and fully completed and signed, and

c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,

b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or

c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

a) the gross misplacement of the decimal point in any unit rate;

b) omissions made in completing the Pricing Data or bills of quantities; or

c) arithmetic errors in:

i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or

ii) the summation of the prices.

F.3.9.2 The employer must correct the arithmetical errors in the following manner:

a) Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

b) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected.

c) Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

d) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices. Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

F.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation

methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Price and Preference

In the case of price and preference:

1) Score tender evaluation points for price
2) Score points for BBBEE contribution
3) Add the points scored for price and BBBEE.

F.3.11.3 Method 2: Functionality, Price and Preference

In case of a functionality, price and preference:

1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data
2) Tender must be regarded as an acceptable if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 5 below.

The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R50 million

4) (a)(i) The following formula must be used to calculate the points for price in respect of tenders(including price quotation) with a rand value equal to, or above R 30 000 and up to Rand value of R 50 000 000 (all applicable taxes included):

$$Ps = 80\left[1 - \frac{Pt - Pmin}{Pmin}\right]$$

where

Ps = Points scored for comparative price of tender or offer under consideration;
Pt = Comparative price of tender or offer under consideration; and
Pmin = Comparative price of lowest acceptable tender or offer.

(4)(a)(ii) An employer of state may apply the formula in paragraph (i) for price quotations with a value less than R30 000, if and when appropriate:

(4)(b) Subject to subparagraph(4)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

B-BBEE status level of contributor	Number of points
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-complaint contributor	0

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

(4)(c) A maximum of 20 points may be allocated in accordance with subparagraph (4)(b)

(4)(d) The points scored by tender in respect of B-BBEE contribution contemplated in contemplated in subparagraph (4) (b) must be added to the points scored for price as calculated in accordance with subparagraph (4)(a).

(4)(e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

The 90/ 10 preference points system for acquisition of services, works or goods with a Rand value above R 50 million

90/10

$$Ps = 90\left[1 - \frac{Pt - Pmin}{Pmin}\right]$$

(5)(a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R 50 000 000 (all applicable taxes included):

Where Ps = Points scored for comparative price of tender or offer under consideration;
Pt = Comparative price of tender or offer under consideration; and
Pmin = Comparative price of lowest acceptable tender or offer.

(5)(b) Subject to subparagraph(5)(c), points must be awarded to a tender for attaining the BBBEE status level of contributor in accordance with the table below:

B-BBEE status level of contributor	Number of points
1	10
2	9
3	8
4	5
5	4
6	3
7	2
8	1
Non-complaint contributor	0

(5)(c) A maximum of 10 points may be allocated in accordance with subparagraph (5)(b).

(5)(d) The points scored by tender in respect of B-BBEE contribution contemplated in contemplated in subparagraph (5) (b) must be added to the points scored for price as calculated in accordance with subparagraph (5)(a).

(5)(e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

F.3.11.6 Decimal places

Score price, preference and functionality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers

Score price of remaining responsive tender offers using the following formula:

$N_{FO} = W_1 \times A$

where: N_{FO} is the number of tender evaluation points awarded for price. W1 is the maximum possible number of tender evaluation points awarded for price as stated in the Tender Data.
A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1[a]	Option 2[a]
1	Highest price or discount	$A = (1 + \frac{(P - P_m)}{P_m})$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$A = (1 - \frac{(P - P_m)}{P_m})$	$A = P_m / P$
a	P_m is the comparative offer of the most favourable tender offer. P is the comparative offer of tender offer under consideration.		

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences.

Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality (Functionality)

Score each of the criteria and sub-criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$N_Q = W_2 \times S_O / M_S$

where: S_O is the score for quality allocated to the submission under consideration;

M_S is the maximum possible score for quality in respect of a submission; and

W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

F.3.12 Insurance provided by the Employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the Employer to provide.

F.3.13 Acceptance of tender offer

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Accept the tender offer, if in the opinion of the Employer, it does not present any unacceptable commercial risk and only if the tenderer:

a) is not under restrictions, or has principals who are under restrictions, preventing participating in the Employer's procurement,

b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

c) has the legal capacity to enter into the contract,

d) is not insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of and of the foregoing,

e) complies with the legal requirements, if any, stated in the tender data, and

f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

F.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the Employer as part of the tender documents to take account of:

a) addenda issued during the tender period,

b) inclusion of some of the returnable documents, and

c) other revisions agreed between the Employer and the successful tenderer.

F.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.15 Complete adjudicator's contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the Employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the Employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender, but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

F3.19 Transparency in the procurement process

F3.19.1 The cidb prescripts require that tenders must be advertised and be registered on the cidb i.Tender system.

F3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.
F3.19.4 The client must publish the information on a quarterly basis which contains the following information:

- Procurement planning process
- Procurement method and evaluation process
- Contract type
- Contract status
- Number of firms tendering
- Cost estimate
- Contract title
- Contract firm(s)
- Contract price
- Contract scope of work
- Contract start date and duration
- Contract evaluation reports

F3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F3.19.6 Consultative Forum must be an independent structure from the bid committees.

F3.19.7 The information must be published on the employer's website.

F 3.19.8 Records of such disclosed information must be retained for audit purposes.

PART T2: RETURNABLE DOCUMENTS

SECTION T2.1: LIST OF RETURNABLE DOCUMENTS

THE TENDERER MUST SUBMIT THE FOLLOWING DOCUMENTS WITH THIS TENDER. IF THE DOCUMENTS ARE NOT INCLUDED IN THE DOCUMENT, THE DEPARTMENT WILL NOT CONSIDER THIS TENDER.

Clause referred to in Standard Conditions of Tender	Document
F.2.1	Tenderers must provide their CRS Numbers of the registered Contractor as well JV Partner*. CRS numbers of Tenderers or JV partners needs to be filled in below: **Tenderer/Leading JV Partner** CRS Number : _____ Name of Company: _____ **JV Partner** CRS Number : _____ Name of Company: _____ **JV Partner** CRS Number : _____ Name of Company: _____
	***NB:** Recent printout from CIDB website indicating the CRS number will also be accepted. All contractors, even tendering in JV, must be registered with CIDB. The lead partner has a contractor grading designation of **not lower than one level below** the required grading designation of **4GB** of construction work.
F.2.7	Attendance of the Compulsory Tender Clarification meeting as stipulated.
F.2.10	Form of offer must be completed and signed by duly authorized person.
F.2.11	Tampering with or taking apart the bound document is strictly prohibited. **All additional documentation must be stapled into the tender document or attached in a separate file."** Corrections in terms of price must not be made by means of a correction fluid such as Tipp-Ex or similar product. "In the event of mistakes having been made on tender **document** it must be crossed out in ink and be accompanied by an initial at each and every price alteration".
F.2.13.4	Letter of authorization to sign the Form of Offer and where required in tender document (See Form D).

F.2.28	Bidders must ensure compliance with their tax obligations. Bidders are required to submit their unique personal identification number (PIN) issued by SARS to enable the organ of state to view the taxpayer's profile and tax status. Application for tax compliance status (TCS) or pin may also be made via e-filing. In order to use this provision, taxpayers will need to register with SARS as e-filers through the website www.sars.gov.za. Bidders may also submit a printed TCS together with the bid. In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate proof of TCS / PIN / CSD number. Where no TCS is available but the bidder is registered on the central supplier database (CSD), a CSD number must be provided.
	The Tenderer must acknowledge and sign the record of addenda page, and submitted the addendum or addenda, in the event that the addendum or addenda has been issued
	The Tenderer submits an original letter from the bank or a FSB registered or NCR registered financial institution with whom he/she has made the necessary arrangements, to the effect that the said institution will be prepared to provide the required performance guarantee when asked to do so.
	The Tenderer is registered and in good standing with respect to Compensation for Occupational Injuries and Diseases Act (COIDA) with Department of Labour or with a licensed compensation insurer. The Tenderer must submit the letter of good standing for building and construction projects. In the event of the Tenderer being a joint venture/consortium, the details of the lead partner must also be provided

THE TENDERER ARE ENCOURAGED TO REGISTER AND SUBMIT THE FOLLOWING NATIONAL TREASURY CENTRAL SUPPLIER DATABASE (CSD) DETAILS WITH THIS TENDER.

Document	
Tenderers shall provide their **CSD Supplier Number (Master Registration Number)** and **Tax Compliance PIN Number** in the space provided below: **NB: In cases where a bidder intends to form a Joint Venture, the CSD Supplier Number (Master Registration Number) and Tax Compliance PIN shall also be provided in the space provided below, i.e. the lead partner and Joint Venture partner/s.** If any sub-contractors are proposed their CSD Supplier Number (Master Registration Number) and Tax Compliance PIN numbers shall be provided in Form A. **If the documents are not included in the document, the tender will be regarded as being NON-RESPONSIVE.**	
Tenderer/Leading JV Partner	
Name of Company:	
CSD Supplier Number: (Master Registration Number)	
Tax Compliance PIN number:	
JV Partner 1	
Name of Company:	
CSD Supplier Number: (Master Registration Number)	
Tax Compliance PIN number:	
JV Partner 2	
Name of Company:	
CSD Supplier Number: (Master Registration Number)	
Tax Compliance PIN number:	
***NB:** **All contractors, even tendering in JV, must be registered with National Treasury Central Supplier Database**	

SECTION T2.2.1:	FORM A: SCHEDULE OF PROPOSED SUBCONTRACTORS
SECTION T2.2.2:	FORM B: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017(SBD 6.1)
SECTION T2.2.3:	FORM C: RECORD OF ADDENDA TO TENDER DOCUMENTS
SECTION T2.2.4:	FORM D: AUTHORITY OF SIGNATORY(PA:15.1, PA:15.2 AND PA:15.3)
SECTION T2.2.5:	FORM E: STATUS OF CONCERN SUBMITTING TENDER
SECTION T2.2.6:	FORM F: DECLARATION OF INTEREST (SBD 4)
SECTION T2.2.7:	FORM G: DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (SBD 8)
SECTION T2.2.8:	FORM H: CERTIFICATE OF INDEPENDENT BID DETERMINATION (SBD9)
SECTION T2.2.9:	FORM I: SCHEDULE OF PLANT AND EQUIPMENT
SECTION T2.2.10:	FORM J: SCHEDULE OF WORK CARRIED OUT BY THE TENDERER
SECTION T2.2.11:	FORM K: CERTIFICATE OF TENDERER'S VISIT TO THE SITE
SECTION T2.2.12:	FORM L: KEY-PERSONNEL/ SUPERVISORY AND MANAGEMENT STAFF
SECTION T2.2.13:	FORM M: COMPLIANCE WITH OHSA (ACT 85 OF 1993)
SECTION T2.2.14:	FORM N: CSD SUPPLIER NUMBER AND TAX COMPLIANCE PIN
SECTION T2.2.15:	FORM O: PRELIMINARY PROGRAMME
SECTION T2.2.16:	FORM P: ESTIMATED MONTHLY EXPENDITURE
SECTION T2.2.17:	FORM Q: ALTERATIONS BY TENDERER
SECTION T2.2.19:	FORM S: SUPPLIER MAINTENANCE FORM
SECTION T2.2.20:	FORM T: COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT (COIDA)
SECTION T2.2.21:	FORM U: DECLARATION CERTIFICATE FOR LOCAL LABOUR PARTICIPATION
SECTION T2.2.22:	FORM V: COMPULSORY ENTERPRISE QUESTIONNAIRE
SECTION T2.2.23:	FORM W: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS(SBD 6.2)

SECTION T2.2: RETURNABLE SCHEDULES

SECTION T2.2.1: FORM A: SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us. The contractor is to obtain approval if he/she intends to change the submitted list of Subcontractors.

Please note that a Monitoring and Evaluating Team from PPRM shall ensure that the Sub Contracted Company is being groomed and paid by the Main Contractor, during the execution stage, reports, pictures and bank statements shall be examined.

In Bids where subcontractors are involved each party must submit a separate proof of TCS / PIN / CSD number together with the bid and CIDB printout of the sub-contracted company or companies with the CRS number/s. Where no TCS is available but the subcontractor is registered on the Central Supplier Database (CSD), a CSD number must be provided. (Refer to Clause F2.28)
Alternatively, where a subcontractor is not yet registered on the National Treasury CSD, submission of a Valid Tax Clearance Certificate together with the bid is compulsory. (Refer to Clause F2.28)

1. Will any portion of the contract be sub-contracted? Yes ☐ / No ☐

2. If yes, indicate:

   (i) The name of the proposed sub-contractor, the nature and extent of the work to be sub-contracted and the previous experience with the sub-contractor in the table below.

Name and address of the proposed Sub-contractor		Nature and extent of work	Previous experience with Sub-contractor
1.			
2.			
3.			
4.			

3 What percentage of the contract will be sub-contracted, the B-BBEE status level of the sub-contractors and whether they are an EME/QSE, must be stated in the table below and specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

Name of proposed Sub Contractor	% of the work that will be sub-contrac-ted	B-BBEE status level of the sub-contractor	Designated Group: An EME or QSE which is at last 51% owned by:																	
			Black people		Black people who are youth		Black people who are women		Black people with disabilit ies		Black people living in rural or under-deve-loped areas or town-ships		Coope rative owned by black people		Black people who are military veteran s		Any EME		Any QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	
			EME		EME		EME		EME		EME		EME		EME		EME		EME	
			QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE		QSE	

Signature of person authorised to sign the tender: .....

Date: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.2: FORM B: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017 (SBD 6.1)

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2

a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable; or

b) Either the 80/20 or 90/10 preference point system will be applicable to this tender (*delete whichever is not applicable for this tender*).

1.3 Points for this bid shall be awarded for:

(a) Price; and

(b) B-BBEE Status Level of Contributor.

1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

(a) **"B-BBEE"** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;

(b) **"B-BBEE status level of contributor"** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

(c) **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;

(d) **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

(e) **"EME"** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;

(f) **"functionality"** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.

(g) **"prices"** includes all applicable taxes less all unconditional discounts;

(h) **"proof of B-BBEE status level of contributor"** means:

1) B-BBEE Status level certificate issued by an authorized body or person;

2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;

3) Any other requirement prescribed in terms of the B-BBEE Act;

(i) **"QSE"** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;

(j) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 **or** **90/10**

$$Ps = 80\left(1 - \frac{Pt - P\min}{P\min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\min}{P\min}\right)$$

Where

Ps = Points scored for price of bid under consideration

Pt = Price of bid under consideration

Pmin = Price of lowest acceptable bid

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5. BID DECLARATION

5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

6.1 B-BBEE Status Level of Contributor: . = ...(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

7.1 Refer to Form A

8. DECLARATION WITH REGARD TO COMPANY/FIRM

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

Partnership/Joint Venture / Consortium
One person business/sole propriety

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Close corporation
Company
(Pty) Limited
[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

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

8.6 COMPANY CLASSIFICATION

Manufacturer
Supplier
Professional service provider
Other service providers, e.g. transporter, etc.
[*TICK APPLICABLE BOX*]

8.7 Total number of years the company/firm has been in business:.....

8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

i) The information furnished is true and correct;

ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –

(a) disqualify the person from the bidding process;

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

(d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a

fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution.

WITNESSES 1. ..... 2.	..... SIGNATURE(S) OF BIDDERS(S) DATE: ..... ADDRESS ....

SECTION T2.2.3: FORM C: RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

Date		Title of Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

Signature of person authorised to sign the tender: .....

Date: .....

SECTION T2.2.4: FORM D: AUTHORITY OF SIGNATORY

Signatories for companies, closed corporations and partnerships must establish their authority **BY ATTACHING TO THIS FORM, ON THEIR ORGANISATIONS'S LETTERHEAD STATIONERY**, a copy of the relevant resolution by their Board of Directors, Members or Partners, duly signed and dated.

An **EXAMPLE** is shown below for a COMPANY:

MABEL HOUSE (Pty) Ltd

By resolution of the Board of Directors taken on *20 May 2000, MR A.F JONES*

has been duly authorised to sign all documents in connection with Contract no CON 0005, and any contract which may arise therefrom, on behalf of *Mabel House (Pty) Ltd.*

SIGNED ON BEHALF OF THE COMPANY:	(Signature of Managing Director)
IN HIS CAPACITY AS:	Managing Director
DATE:	20 May 2000
SIGNATURE OF SIGNATORY:	Signature of *A.F Jones)*

As witnesses:

1. .....

2. .....

Example

Signature of person authorised to sign the tender

Date: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PA-15.1: RESOLUTION OF BOARD OF DIRECTORS –

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____

_____
(legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ *(place)*

on _____ *(date)*

RESOLVED that:

1 The Enterprise submits a Tender to the Department of Agriculture, Land Reform and Rural Development in respect of the following project:

_____

_____
(project description as per Tender Document)

Tender Number: _____ *(Tender Number as per Tender Document)*

2 *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ *(Position in the Enterprise)*

and who will sign as follows: _____

be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprise mentioned above.

	- Name	Capacity	Signature
1	-		
2	-		
3	-		
4	-		
5	-		
6	-		
7	-		

Note:

1. ** Delete which is not applicable.*
2. ***NB**. This resolution must be signed by <u>all</u> the Directors / Members / Partners of the Tendering Enterprise.*
3. *Should the number of Directors / Members / Partners exceed the space available above, additional names capacity and signatures must be supplied on a separate page.*

ENTERPRISE STAMP

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PA-15.2: RESOLUTION OF BOARD OF DIRECTORS TO ENTER INTO CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____

_____
(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ *(place)*

on _____ *(date)*

RESOLVED that:

1. The Enterprise submit a Tender, in consortium/joint venture with the following Enterprises:

   _____

   _____
   , *(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the consortium/joint venture)*

   to the Department of Agriculture, Land Reform and Rural Development in respect of the following project:

   _____

   _____
   (Project description as per Tender Document)

   Tender Number: _____ *(Tender Number as per Tender Document)*

1 *Mr/Mrs/Ms: _____

   in *his/her Capacity as: _____ *(Position in the Enterprise)*

   and who will sign as follows:

   _____

   be, and is hereby, authorized to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.

2 The Enterprise accept joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Department in respect of the project described under item 1 above.

3 The Enterprise choose as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:
Physical address: _____

_____(code)

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Postal Address: _____

_____

_____

_____ (code)

Telephone number: _____ (code)

Fax number: _____ (code)

	- Name	Capacity	Signature
1	-		
2	-		
3	-		
4	-		
5	-		
6	-		
7	-		
8	-		
9	-		
10	-		
11	-		
12	-		
13	-		
14	-		
15	-		

Note:

1. ** Delete which is not applicable.*
2. ***NB**. This resolution must be signed by <u>all</u> the Directors / Members / Partners of the Tendering Enterprise.*
3. *Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page.*

ENTERPRISE STAMP

PA-15.3: SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a consortium/joint venture to jointly tender for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a Consortium/Joint Venture)*

1 _____

_____

2 _____

_____

3 _____

_____

4 _____

_____

5 _____

_____

6 _____

_____

7 _____

_____

8 _____

_____

Held at _____ *(place)*

on _____ *(date)*

RESOLVED that:

A. The above-mentioned Enterprises submit a tender in Consortium/Joint Venture to the Department of Agriculture, Land Reform and Rural Development in respect of the following project:

_____

_____

(Project description as per Tender Document)

Tender Number: _____ *(Tender Number as per Tender Document)*

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

A. Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ *(Position in the Enterprise)*
and who will sign as follows: _____

be, and is hereby, authorised to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the tender to the Enterprises in Consortium/Joint Venture mentioned above.

B. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of:

_____

C. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Department in respect of the project described under item A above.

D. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Department for the due fulfilment of the obligations of the Consortium/Joint Venture as mentioned under item D above.

E. No Enterprise to the Consortium/Joint Venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Department referred to herein.

F. The Enterprises choose as the *domicilium citandi et executandi* of the Consortium/Joint Venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Department in respect of the project under item A above:

Physical address: _____

_____

_____

_____ (code)

Postal Address: _____

_____

_____

_____ (code)

Telephone number: _____ (code)
Fax number: _____ (code)

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

	A. NAME	Capacity	Signature
1	B.		
2	C.		
3	D.		
4	E.		
5	F.		
6	G.		
7	H.		
8	I.		
9	J.		
10	K.		
11	L.		
12	M.		
13	N.		
14	O.		
15	P.		

Note:

1. ** Delete which is not applicable.*
2. ***NB**: This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the Consortium / Joint Venture submitting this tender.*
3. *Should the number of Duly Authorised Representatives of the Legal Entities joining forces in this tender exceed the space available above, additional names, capacity and signatures must be supplied on a separate page.*
4. *Resolutions, duly completed and signed, from the separate Enterprises who participate in this Consortium / Joint Venture must be attached to the Special Resolution.*

SECTION T2.2.5: FORM E: STATUS OF CONCERN SUBMITTING TENDER

1. GENERAL

State whether the tenderer is a company, a closed corporation, a partnership or a one-man concern. (Make an X in the appropriate space below)

Company ☐ Closed Corporation ☐ Partnership ☐

One-man concern ☐ Joint Venture ☐

2. INFORMATION TO BE PROVIDED

(Block letters)

2.1 If the tenderer is a Company:

(a) Affix a certified copy of the Certificate of Incorporation to this page.
(b) List the Directors.

2.2 If the tenderer is a Closed Corporation:

(a) Affix a certified copy of the Founding Statement to this page.
(b) List the Members.

2.3 If the tenderer is a Partnership:

List the partners.

2.4 If the tenderer is a One-man concern:

Provide the full name and ID number of the person.

2.5 If the tenderer is a Joint Venture:

(a) Affix a certified copy of the Founding Statement of each partner of the JV to this page.
(b) Affix JV agreement.

3. REGISTERED FOR VAT PURPOSES IN TERMS OF THE VALUE-ADDED TAX ACT, (Act Nr. 89 of 1991) (Make an X in the appropriate space below)

Yes ☐ / No ☐ Registration nr.: .....

Signature of person authorised to sign the tender: .....

Date: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.6: FORM F: DECLARATION OF INTEREST (SBD 4)

1. Any legal person, including persons employed by the state[1], or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-

   - the bidder is employed by the state; and/or

   - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.

2. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

   2.1 Full Name of bidder or his or her representative: .....

   2.2 Identity Number: .....

   2.3 Position occupied in the Company (director, trustee, shareholder[2]): .....

   2.4 Company Registration Number: .....

   2.5 Tax Reference Number: .....

   2.6 VAT Registration Number: .....

   2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.

   2.7 Are you or any person connected with the bidder Presently employed by the state? Yes ☐ / No ☐

   2.7.1 If so, furnish the following particulars:

   Name of person / director / trustee / shareholder/ member: .....

[1] "State" means –
(a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
(b) any municipality or municipal entity;
(c) provincial legislature;
(d) national Assembly or the national Council of provinces; or
(e) Parliament.

[2] "Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Name of state institution at which you or the person connected to the bidder is employed:

.....

Position occupied in the state institution: .....

Any other particulars: .....

.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? Yes ☐ / No ☐

2.7.2.1 If yes, did you attached proof of such authority to the bid document? Yes ☐ / No ☐

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:

.....

.....

.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? Yes ☐ / No ☐

2.8.1 If so, furnish particulars:

.....

.....

.....

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? Yes ☐ / No ☐

2.9.1 If so, furnish particulars:

.....

.....

.....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? Yes ☐ / No ☐

2.10.1 If so, furnish particulars:

.....

.....

.....

2.11 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract? Yes ☐ / No ☐

2.11.1 If so, furnish particulars:

.....

.....

.....

3. Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	Personal Tax Reference Number	State Employee Number / Persal Number

4. Declaration

I, the undersigned (Name .....

certify that the information furnished in paragraphs 2 and 3 above is correct.

I accept that the state may reject the bid or act against me in terms of paragraph 23 of the general conditions of contract should this declaration prove to be false.

.....	.....
Signature	Date
.....	.....
Name of Bidder	Position of Bidder

SECTION T2.2.7: FORM G: DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (SBD 8)

1. This Standard Bidding Document must form part of all tenders invited.

2. It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3. The tender of any tenderer will be rejected if that tenderer, or any of its directors have:

   a. abused the institution's supply chain management system;
   b. committed fraud or any other improper conduct in relation to such system; or
   c. failed to perform on any previous contract.

4. **In order to give effect to the above, the following questionnaire must be completed and submitted with the tender:**

Item	Question	Yes	No
4.1	Is the bidder any of its directors listed on the National Treasury's database as a company or persons prohibited from doing business with the public sector? **(Companies for persons who are listed on this database were informed in writing of this restriction by the National Treasury after the *audi alteram partem* rule was applied).**	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? **(To access this Register enter the National Treasury's website, www.treasury.gov.za , click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012)3265445)**	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		

Item	Question	Yes	No
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and the Department entity or any other organ of state terminated during the past five years on account of failure to perform on or to comply with the contract?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Does the bidder or any of its directors owe any Municipal rates and taxes or Municipal charges to the Municipality / Municipal entity, or to any other Municipality / Municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.5.1	If so, furnish particulars:		

CERTIFICATION

I, the undersigned (full name) .....
certify that the information furnished on this declaration form to be true and correct.

I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

.....
Signature

.....
Date

.....
Name of Bidder

.....
Position of Bidder

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.8: FORM H: CERTIFICATE OF INDEPENDENT BID DETERMINATION (SBD 9)

1. This Standard Bidding Document (SBD) must form part of all bids[1] invited.

2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

3. Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:

   a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.

   b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.

4. This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5. In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

1 Includes price quotations, advertised competitive bids, limited bids and proposals.

2 Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

.....
(Bid Number and Description)

in response to the invitation for the bid made by:

.....
(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of ..... that:
(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
   (a) has been requested to submit a bid in response to this bid invitation;
   (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
   (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder.
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium[3] will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   (a) prices;
   (b) geographical area where product or service will be rendered (market allocation)
   (c) methods, factors or formulas used to calculate prices;
   (d) the intention or decision to submit or not to submit, a bid;

3 Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

(e) the submission of a bid which does not meet the specifications and conditions of the bid; or

(f) bidding with the intention not to win the bid.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....	.....
Signature	Date
.....	.....
Name of Bidder	Position of Bidder

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.9: FORM I: SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of major items of relevant equipment that I/we presently own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.
Proof of ownership must be attached.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my/our tender is acceptable.
Proof of lease agreement must be attached or a letter of intent from a hiring company.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signature of person authorised to sign the tender: .....

Date: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.10: FORM J: SCHEDULE OF WORK CARRIED OUT BY THE TENDERER

The tenderer shall list in the spaces provided below the successfully completed projects of similar scope, nature and size in the past 5 years. This information shall be deemed to be material to the award of this tender.

Employer (Name, Tel No, Fax No)	Consulting Engineer (Name, Tel No, Fax No)	Nature Of Work	Value Of Work	Year Completed
Completed				

Signature of person authorised to sign the tender: .....

Date: .....

SECTION T2.2.11: FORM K: CERTIFICATE OF TENDERER'S VISIT TO THE SITE

This is to certify that I, ...

Representative of (Tenderer).....

Of (address) .....

.....

.....

Telephone No: .....

Fax No: .....

Visited and carefully examined the Site on the ..... day of .....20 .....

In the company of (Engineer's representative) .....

Signature (Tenderer's Representative) .....

Signature (Engineer's Representative) .....

SECTION T2.2.12: FORM L: KEY-PERSONNEL/ SUPERVISORY AND MANAGEMENT STAFF

The Tenderer shall, submit the name of all supervisory staff that will be employed to supervise Contract. **Please attach CV'.** The Tenderer shall also include an organogram of the project team and the company structure.

NB: No points will be awarded if the bidder has not attached CV)

1. Position	**Site agent**
Name	
Indicate Years of Experience **as a Site Agent**	
Duties and List of duties as a Site Agent	
Currently Employed by Tenderer (Y/N)	
Signature	
2. Position	**Foreman**
Name	
Indicate Years of Experience **as a Foreman**	
Duties and List of duties as a Foreman	
Currently Employed by Tenderer (Y/N)	
Signature	

SECTION T2.2.13: FORM M: COMPLIANCE WITH OHSA (ACT 85 OF 1993)

Tenderers are required to satisfy the Employer and the Engineer as to their ability and available resources to comply with the above by answering the following questions and providing the relevant information required below.

1. Is the Contractor familiar with the OHSA (ACT 85 of 1993) and its Regulations? Yes ☐ / No ☐

2. Who will prepare the Contractor's Health and Safety Plan? (Section T2.2.18 – Form R) (Provide a copy of the person/s curriculum vitae/s or company profile). Yes ☐ / No ☐

3. Does the Contractor have a health and safety policy? (if yes, provide a copy). How is this policy communicated to all employees? Yes ☐ / No ☐

4. Does the Contractor keep records of safety aspects of each construction site? If yes, what records are kept? Yes ☐ / No ☐

5. Does the Contractor conduct monthly safety meetings? If yes, who is the chairperson of the meeting, and who attend these meetings? Yes ☐ / No ☐

6. Does the Contractor have a safety officer in his employment, responsible for the overall safety of his company?
If yes, please explain his duties and provide a copy of his CV. Yes ☐ / No ☐

7. Does the Contractor have trained first aid employees? If yes, indicate, who. Yes ☐ / No ☐

8. Does the Contractor have a safety induction training programme in place? (If yes, provide a copy) Yes ☐ / No ☐

Signature of person authorised to sign the tender: .....

Date: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.14: FORM N: CSD SUPPLIER NO AND TAX COMPLIANCE PIN

Bidders registered on the **National Treasury Central Supplier Database (CSD)** are required to submit their unique **Personal Identification Number (PIN)** issued by SARS in the space provided below as stipulated in Clause F2.28.

Bidders may also submit a **printed TCS** together with the bid.

In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party **must** submit a separate proof of **TCS / PIN / CSD** number.

Where no TCS is available but the bidder is registered on the Central Supplier Database (CSD), a **CSD number** must be provided

Alternatively the tenderer must submit a valid tax clearance certificate together with the Bid, including Valid Tax Clearance Certificates for the Joint Venture partner/s and Subcontractors proposed.

The certificates may be stapled into the tender document without taking the tender document apart or may be attached in a separate file to the tender document.

If the documents are not included in the document, the tender will be regarded as being NON-RESPONSIVE.

Tenderer/Leading JV Partner

Name of Company:	
CSD Supplier Number: (Master Registration Number)	
Tax Compliance PIN number:	

JV Partner 1

Name of Company:	
CSD Supplier Number: (Master Registration Number)	
Tax Compliance PIN number:	

JV Partner 2

Name of Company:	
CSD Supplier Number: (Master Registration Number)	
Tax Compliance PIN number:	

***NB: All contractors, even tendering in JV, must be registered with National Treasury Central Suppler Database**

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.15: FORM O: PRELIMINARY PROGRAMME

The Tenderer shall attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of the Tender.

Note: The programme must be based on the completion time as specified in the Contract Data. (No points will be awarded to the bidder if a detailed program is not attached)

SECTION T2.2.16: FORM P: ESTIMATED MONTHLY EXPENDITURE

The tenderer shall, in the table below, state the estimated cash flow on the contract based on his preliminary programme, his tendered unit rates and his submission of payment certificates to the Employer. Amounts for Contract Price Adjustment shall not be included.

Payment Certificate No.	Amount (VAT Included)					
	a	B	a-b			Cumulative cash flow
	Payments Received	Expenditure		Net cash flow		
1	None		d		j=d	
2			e		k=j+e	
3			f		l=k+f	
4			g		m=l+g	
5			h		n=m+h	
6			etc		etc	
7						
8						
9						
10						
etc						
**Maximum negative cash flow: take the largest negative number in the last column and write it here >>>>

SECTION T2.2.17: FORM Q: ALTERATIONS BY TENDERER

Should the Tenderer desire to have any departures from, or modifications to the General Conditions of Contract, Specifications, Bill of Quantities or Drawings considered, or to qualify his tender in any way, he shall set out his proposals clearly hereunder or alternatively state them in a covering letter attached to his tender and referred to hereunder.

PAGE	DESCRIPTION

Signature of person authorised to sign the tender: .....

Date: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.18: FORM S: SUPPLIER MAINTENANCE FORM

BAS ☐ PMIS ☐ LOGIS ☐ WCS ☐ CONTRACTOR
☐ CONSULTANT

OFFICE: .....

The Director General : Department of Agriculture, Land Reform and Rural Development

I/We hereby request and authorise you to pay any amounts, which may accrue to me/us to the credit of my/our account with the mentioned bank.
I/we understand that the credit transfers hereby authorised will be processed by computer through a system known as "ACB - Electronic Fund Transfer Service", and I/we understand that not additional advice of payment will be provided by my/our bank, but that the details of each payment will be printed on my/our bank statement or any accompanying voucher. (This does not apply where it is not customary for banks to furnish bank statements).
I/we understand that the Department will supply a payment advice in the normal way, and that it will indicate the date on which the funds will be made available on my/our account.
This authority may be cancelled by me/us by giving thirty days' notice by prepaid registered post.
Please ensure information is validate as per required bank screens.
I/We understand that bank details provided should be exactly as per the records held by the bank.

I/We understand that the Department will not assume responsibility for any delayed payments, as a result of incorrect information supplied.

Company / Personal Details	
Registered Name	
Trading Name	
Tax Number	
VAT Number	
Title:	
Initials:	
First Name:	
Surname:	

Address Detail	
Payment Address (Compulsory if Supplier)	
Postal Code	

New Detail

☐ New Supplier information ☐ Update Supplier information

Supplier Type:
☐ Individual ☐ Department ☐ Partnership
☐ Company ☐ Trust
☐ CC ☐ Other (Specify) ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Department Number ☐☐

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Supplier Account Details

(Please note that this account MUST be in the name of the supplier. No 3rd party payments allowed).

Account Name

Account Number

Branch Name

Branch Number

Account Type

- Cheque Account
- Savings Account
- Transmission Account
- Bond Account
- Other (Please Specify)

ID Number

Passport Number

Company Registration Number

*CC Registration

***Please include CC/CK where applicable**

Practise Number

When the bank stamps this entity maintenance form they confirm that all the information completed by the entity is correct.

Bank stamp

It is hereby confirmed that this details have been verified against the following screens

ABSA-CIF screen

FNB-Hogans system on the CIS4

STD Bank-Look-up-screen

Nedbank- Banking Platform under the Client Details Tab

Contact Details

Business	Area Code	Telephone Number	Extension
Home	Area Code	Telephone Number	Extension
Fax	Area Code	Fax Number	
Cell	Cell Code	Cell Number	

Email Address

Contact Person:

Supplier Signature	Regional Office Sender
Print Name	Print Name
	Rank
Date (dd/mm/yyyy)	Date (dd/mm/yyyy)

PLEASE RETURN TO THE RELEVANT REGIONAL OFFICE THAT SUPPLIED THE FORM OR

THE FOLLOWING ADDRESS:

NB: All relevant fields must be completed

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.19: FORM T: COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT (COIDA)

Please attach Compensation for Occupational Injuries and Diseases Act (COIDA) to this page

Evidence of registration and proof of good standing with a compensation insurer who is approved by the Department of Labour in terms of Section 80 of the Compensation for Occupational Injuries and Diseases Act (Act No 130 of 1993) (COID) **MUST be attached** to this returnable schedule.

Note to Tenderer:
In the event of the Tenderer being a joint venture/consortium, the details of the individual members must also be provided.

SIGNED ON BEHALF OF THE TENDERER:.....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SECTION T2.2.20: FORM U: DECLARATION CERTIFICATE FOR LOCAL LABOUR PARTICIPATION

1. Definitions

1.1 Targeted Labour

Individuals, employed by the contractor in the performance of the contract, who are defined as the target group in the contract and who permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area

1.2 Target Group

For this project the contract does not specify the target group based on gender, age or disability. However, specifically excluded from the Target Group is the contractor's own staff unless such staff are also from the Target Area.

1.3 Target Area

For this project, the target area is defined as Xariep, In the Free State Province.

1.4 Labour Maximisation

Labour maximisation shall contribute a minimum of 10%.

2. Conditions associated with the granting of preferences

The tenderer, undertakes to:

1) engage one or more targeted labour in accordance with the provisions of the SANS 1914-4 as varied in section 3 hereunder;
2) accept the sanctions set out in Section 2 below, should such conditions be breached;
3) complete the Targeted Labour (CPG) calculation form contained in Section 5 below; and
4) complete the Supporting Contract Participation Goal Calculation contained in Section 6 below.

3. Variation to the targeted construction procurement specification SANS 1914-4

The variations to SANS 1914-4 are set out below. Should any requirements of the variations conflict with requirements of SANS 1914-4 the requirements of the variations shall prevail

Calculations shall be based as a % of targeted labour costs of the Tender Sum (excluding VAT) and not calculated in accordance with methods 1 or 2 in Annexure A of SANS 1914-4.

4. Sanctions

In the event that the Tenderer fails to substantiate that any failure to achieve the Contract Participation Goal was due to quantitative under runs, the elimination of items, or any other reasons beyond the Contractor's control which may be acceptable to the Employer, it shall be liable to pay to the Employer a financial penalty calculated in the following manner:

$$P = 0{,}50 \times \frac{(D - D_o)}{(100)} \times N_A$$

Where D = tendered Contract Participation Goal percentage.

D_o = the Contract Participation Goal which the Employer's representative based on the credits passed, certifies as being achieved upon completion of the contract.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

N_A = Net Amount (Actual contract expenditure, excluding VAT)

P = Rand value of penalty payable

Tender Contract Participation Goal in respect of targeted labour

I/We hereby tender a Contract Participation Goal of .....% in compliance with the Employer's Socio-Economic Requirements.

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm or sole proprietor confirms that he/she understands the conditions under which such preferences are granted.

Signature: .....

Name: .....

Duly authorized to sign on behalf of: .....

Telephone: .....

Fax: .....

5. Supporting Targeted Labour (CPG) calculation

TYPE OF TARGETED LABOUR	TOTAL ESTIMATED WORKING HOURS	RATE	TOTAL ESTIMATED WAGE COST
Permanent labour*			
Temporary labour			
SMME labour			
		Total	

*Note: A tenderer may only claim permanent staff as eligible for preference points if said staff are also from the Target Area. Permanent staff are considered to be those who have been continuously employed by the tenderer for at least three months prior to the commencement of this project.

SIGNED ON BEHALF OF THE TENDERER:.....

SECTION T2.2.21: FORM V: COMPULSORY ENTERPRISE QUESTIONNAIRE

FORM X : Annex L

(normative)
Compulsory Enterprise questionnaire

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise: .....

Section 2: VAT registration number, if any: .....

Section 3: cidb registration number, if any: .....

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number .....

Close corporation number .....

Tax reference number .....

Section 6: The attached SBD4 must be completed for each tender and be attached as a tender requirement.

Section 7: The attached SBD 6 must be completed for each tender and be attached as a requirement.

Section 8: The attached SBD8 must be completed for each tender and be attached as a requirement.

Section 9: The attached SBD9 must be completed for each tender and be attached as a requirement.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;

ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;

Signed ..... Date .....

Name ..... Position .....

Enterprise Name .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

the dti
Department
Trade and Industry
REPUBLIC OF SOUTH AFRICA

Private Bag X84, PRETORIA, 0001, **the dti** Campus, 77 Meintjies Street, Sunnyside, 0002, Tel: (012) 394 0000
the dti Customer Contact Centre local: 0861 843 384 International: +27 12 394 9500, www.thedti.gov.za

Guidance Document for the Calculation of Local Content

1. DEFINITIONS

Unless explicitly provided in this guideline, the definitions given in SATS 1286:2011 apply.

2. GENERAL

2.1. Introduction

This guideline provides tenderers with a detailed description of how to calculate local content of products (goods, services and works) by components/material/services and enables them to keep an updated record for verification requirements as per the SATS 1286:2011

Annexure A and B.

The guideline consists of two parts, namely:

- a written guideline; and
- three declarations that must be completed:

- Declaration C: "Local Content Declaration – Summary Schedule" (see Annexure C);

- Declaration D: "Imported Content Declaration – Supporting Schedule to Annex C" (see Annexure D); and

- Declaration E: "Local Content Declaration – Supporting Schedule to Annex C" (see Annexure E).

The guidelines and declarations should be used by tenderers when preparing a tender. A tenderer must complete Declarations D and E, and consolidate the information on Declaration C.

Annexure C must be submitted with the tender by the closing date and time as determined by the Tender Authority. The Tender Authority reserves the right to request that Declarations D and E also be submitted. If the tender is successful, the tenderer must continuously update Declarations C, D and E with actual values for the duration of the contract.

NOTE:

Annexure A is a note to the purchaser in SATS 1286:2011; and Annexure B is the Local Content Declaration IN SATS 1286:2011.

2.2. What is local content?

According to SATS 1286:2011, the local content of a product is the tender price less the value of imported content, expressed as a percentage. It is, therefore, necessary to first compute the imported value of a product to determine the local content of a product.

2.3. Categories: Imported and Local Content

The tenderer must differentiate between imported content and local content. Imported content of a product by components/material/services is separated into two categories, namely:

- products imported directly by the tenderer; and

- products imported by a third party and supplied to the tenderer.

2.3.1. Imported Content

Identify the imported content, if any, by value for products by component/material/services. In the case of components/materials/services sourced from a South African manufacturer, agent, supplier or subcontractor(i.e. third party), obtain that information and Declaration D from the third party.

Calculate the imported content of components/materials/services to be used in the manufacture of the total quantity of the products for which the tender is to be submitted.

As stated in clause 3.2.4 of SATS 1286:2011: "If information on the origin of components, parts or materials is not available, it will be deemed to be imported content." 2.3.1.1. Imported directly by the tenderer:

When the tenderer import products directly, the onus is on the tenderer to provide evidence of any components/materials/services that were procured from a non-domestic source. The evidence should be verifiable and pertain to the tender as a whole. Typical evidence will include commercial invoices, bills of entry, etc.

When the tenderer procures imported services such as project management, design, testing, marketing, etc and makes royalty and lease payments, such payments relating to the tender must be included when calculating imported content.

2.3.1.2. Imported by a third party and supplied to the tenderer :When the tenderer supplies components/material/services that are imported by any third party (for example, a domestic manufacturer, agent, supplier or subcontractor in the supply chain), the onus is on the tenderer to obtain verifiable evidence from the third party.

The tenderer must obtain Declaration D from all third parties for the related tender. The third party must be requested by the tenderer to continuously update Declaration D. Typical evidence of imported content will include commercial invoices, bills of entry etc.

When a third party procures imported services such as project management, design, testing, marketing etc. and makes royalty and lease payments, such payments relating to the tender must be included when calculating imported content.

2.3.1.3. Exempt Imported Content:

Exemptions, if any, are granted by the Department of Trade and Industry (**the dti**). Evidence of the exemptions must be provided and included in

Annexure D.

2.3.2. Local Content

Identify and calculate the local content, by value for products by components/materials/services to be used in the manufacture of the total quantity of the products.

ANNEXURE C

3.1. Guidelines for completing Annexure C: Local Content Declaration – Summary Schedule

Note: The paragraph numbers correspond to the numbers in Annexure C.

C1. Tender Number

Supply the tender number that is specified on the specific tender documentation.

C2. Tender description

Supply the tender description that is specified on the specific tender documentation.

C3. Designated products

Supply the details of the products that are designated in terms of this tender (i.e. buses).

C4. Tender Authority

Supply the name of the tender authority.

C5. Tendering Entity name

Provide the tendering entity name (for example, Unibody Bus Builders (Pty) Ltd).

C6. Tender Exchange Rate

Provide the exchange rate used for this tender, as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

C7. Specified local content %

Provide the specified minimum local content requirement for the tender (i.e. 80%), as per the Standard Bidding Document (SBD) and Municipal

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Bidding Document (MDB) 6.2.

C8. Tender item number

Provide the tender item number(s) of the products that have a local content requirement as per the tender specification.

List of items

Provide a list of the item(s) corresponding with the tender item number. This may be a short description or a brand name.

Calculation of local content

C10. Tender price

Provide the unit tender price of each item excluding VAT.

C11. Exempted imported content

Provide the ZAR value of the exempted imported content for each item, if applicable. These value(s) must correspond with the value(s) of column D16 on Annexure D.

C12. Tender value net of exempted imported content

Provide the net tender value of the item, if applicable, by deducting the exempted imported content (C11) from the tender price (C10).

C13. Imported value

Provide the ZAR value of the items' imported content.

C14. Local value

Provide the local value of the item by deducting the Imported value (C13) from the net tender value (C12).

C15. Local content percentage (per item)

Provide the local content percentage of the item(s) by dividing the local value (C14) by the net tender value (C12) as per the local content formula in SATS 1286.

Tender Summary

C16. Tender quantity

Provide the tender quantity for each item number as per the tender specification.

C17. Total tender value

Provide the total tender value by multiplying the tender quantity (C16) by the tender price (C10).

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Total exempted imported content

Provide the total exempted imported content by multiplying the tender quantity (C16) by the exempted imported content (C11). These values must correspond with the values of column D18 on Annexure D.

C19. Total imported content

Provide the total imported content of each item by multiplying the tender quantity (C16) by the imported value (C13).

C20. Total tender value

Total tender value is the sum of the values in column C17.

C21. Total exempted imported content

Total exempted imported content is the sum of the values in column

C18. This value must correspond with the value of D19 on Annexure D.

C22. Total tender value net of exempted imported content

The total tender value net of exempt imported content is the total tender value (C20) less the total exempted imported content (C21).

C23. Total imported content

Total imported content is the sum of the values in column C19. This value must correspond with the value of D53 on Annexure D.

C24. Total local content

Total local content is the total tender value net of exempted imported content (C22) less the total imported content (C23). This value must correspond with the value of E13 on Annexure E.

C25. Average local content percentage of tender

The average local content percentage of tender is calculated by dividing total local content (C24) by the total tender value net of exempted imported content (C22).

ANNEXURE D

4.1. Guidelines for completing Annexure D: "Imported Content Declaration – Supporting Schedule to Annexure C"

Note: The paragraph numbers correspond to the numbers in Annexure D.

D1. Tender number

Supply the tender number that is specified on the specific tender documentation.

D2. Tender description

Supply the tender description that is specified on the specific tender documentation.

D3. Designated products

Supply the details of the products that are designated in terms of this tender (i.e. buses).

D4. Tender authority

Supply the name of the tender authority.

D5. Tendering entity name

Provide the tendering entity name (i.e. Unibody Bus Builders (Pty) Ltd).

D6. Tender exchange rate

Provide the exchange rate used for this tender, as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

Table A. Exempted Imported Content

D7. Tender item number

Provide the tender item number(s) of the product(s) that have imported content.

D8. Description of imported content

Provide a list of the exempted imported product(s), if any, as specified in the tender.

D9. Local supplier

Provide the name of the local supplier(s) supplying the imported product(s).

D10. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the exempted imported product(s).

D11. Imported value as per commercial invoice

Provide the foreign currency value of the exempted imported product(s) disclosed in the commercial invoice accepted by the South African Revenue Service (SARS).

D12. Tender exchange rate

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D13. Local value of imports

Convert the value of the exempted imported content as per commercial invoice (D11) into the ZAR value by using the tender exchange rate(D12) disclosed in the tender documentation.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

D14. Freight costs to port of entry

Provide the freight costs to the South African Port of the exempted imported item.

D15. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the exempted imported product(s) as stipulated in the SATS 1286:2011.

D16. Total landed costs excl VAT

Provide the total landed costs (excluding VAT) for each item imported by adding the corresponding item values in columns D13, D14 and D15. These values must be transferred to column C11 on Annexure C.

D17. Tender quantity

Provide the tender quantity of the exempted imported products as per the tender specification.

D18. Exempted imported value

Provide the imported value for each of the exempted imported product(s) by multiplying the total landed cost (excl. VAT) (D16) by the tender quantity (D17). The values in column D18 must correspond with the values of column C18 of Annexure C.

D19. Total exempted imported value

The total exempted imported value is the sum of the values in column D18. This total must correspond with the value of C21 on Annexure C.

Table B. Imported Directly By Tenderer

D20. Tender item numbers

Provide the tender item number(s) of the product(s) that have imported content.

D21. Description of imported content:

Provide a list of the product(s) imported directly by tender as specified in the tender documentation.

D22. Unit of measure

Provide the unit of measure for the product(s) imported directly by the tenderer.

D23. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the imported product(s).

D24. Imported value as per commercial Invoice

Provide the foreign currency value of the product(s) imported directly by tenderer disclosed in the commercial invoice accepted by the South African Revenue Service (SARS).

D25. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D26. Local value of imports

Convert the value of the product(s) imported directly by the tenderer as per commercial invoice (D24) into the ZAR value by using the tender exchange rate (D25) disclosed in the tender documentation.

D27. Freight costs to port of entry

Provide the freight costs to the South African Port of the product(s) imported directly by the tenderer.

D28. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the product(s) imported directly by the tenderer as stipulated in the SATS 1286:2011.

D29. Total landed costs excl VAT

Provide the total landed costs (excluding VAT) for each item imported directly by the tenderer by adding the corresponding item values in columns D26, D27 and D28.

D30. Tender quantity

Provide the tender quantity of the product(s) imported directly by the tenderer as per the tender specification.

D31. Total imported value

Provide the total imported value for each of the product(s) imported directly by the tenderer by multiplying the total landed cost (excl. VAT) (D29) by the tender quantity (D30).

D32. Total imported value by tenderer

The total value of imports by the tenderer is the sum of the values in column D31.

Table C. Imported by Third Party and Supplied to the Tenderer

D33. Description of imported content

Provide a list of the product(s) imported by the third party and supplied to the tenderer as specified in the tender documentation.

D34. Unit of measure

Provide the unit of measure for the product(s) imported by the third party and supplied to tenderer as disclosed in the commercial invoice.

D35. Local supplier

Provide the name of the local supplier(s) supplying the imported product(s).

D36. Overseas supplier

Provide the name(s) of the overseas supplier(s) supplying the imported products.

D37. Imported value as per commercial invoice

Provide the foreign currency value of the product(s) imported by the third party and supplied to the tenderer disclosed in the commercial invoice accepted by SARS.

D38. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D39. Local value of imports

Convert the value of the product(s) imported by the third party as per commercial invoice (D37) into the ZAR value by using the tender exchange rate (D38) disclosed in the tender documentation.

D40. Freight costs to port of entry

Provide the freight costs to the South African Port of the product(s) imported by third party and supplied to the tenderer.

D41. All locally incurred landing costs and duties

Provide all landing costs including customs and excise duty for the product(s) imported by third party and supplied to the tenderer as stipulated in the SATS 1286:2011.

D42. Total landed costs excluding VAT

Provide the total landed costs (excluding VAT) for each product imported by third party and supplied to the tenderer by adding the corresponding item values in columns D39, D40 and D41.

D43. Quantity imported

Provide the quantity of each product(s) imported by third party and supplied to the tenderer for the tender.

D44. Total imported value

Provide the total imported value of the product(s) imported by third party and supplied to the tenderer by multiplying the total landed cost (D42) by the quantity imported (D43).

D45. Total imported value by third party

The total imported value from the third party is the sum of the values in column D44.

Table D. Other Foreign Currency Payments

D46. Type of payment

Provide the type of foreign currency payment. (i.e. royalty payment for use of patent, annual licence fee, etc).

D47. Local supplier making the payment

Provide the name of the local supplier making the payment.

D48. Overseas beneficiary

Provide the name of the overseas beneficiary.

D49. Foreign currency value paid

Provide the value of the listed payment(s) in their foreign currency.

D50. Tender rate of exchange

Provide the exchange rate used for this tender as per the Standard Bidding Document (SBD) and Municipal Bidding Document (MBD) 6.2.

D51. Local value of payments

Provide the local value of each payment by multiplying the foreign currency value paid (D49) by the tender rate of exchange (D50).

D52. Total of foreign currency payments declared by tenderer and/or third party

The total of foreign currency payments declared by tenderer and/or a third party is the sum of the values in column D51.

D53. Total of imported content and foreign currency payment

The total imported content and foreign currency payment is the sum of the values in column D32, D45 and D52. This value must correspond with the value of C23 on Annexure C.

5. ANNEXURE E

5.1. Guidelines to completing Annexure E: "Local Content Declaration-Supporting Schedule to Annexure C"

The paragraph numbers correspond to the numbers in Annexure E

E1. Tender number

Supply the tender number that is specified on the specific tender documentation.

E2. Tender description

Supply the tender description that is specified on the specific tender documentation.

E3. Designated products

Supply the details of the products that are designated in terms of this tender (for example, buses/canned vegetables).

E4. Tender authority

Supply the name of the tender authority.

E5. Tendering entity name

Provide the tendering entity name (for example, Unibody Bus Builders (Pty) Ltd) Ltd).

Local Goods, Services and Works

E6. Description of items purchased

Provide a description of the items purchased locally in the space provided.

E7. Local supplier

Provide the name of the local supplier that corresponds to the item listed in column E6.

E8. Value

Provide the total value of the item purchased in column E6.

E9. Total local products (Goods, Services and Works)

Total local products (goods, services and works) is the sum of the values in E8.

E10. Manpower costs:

Provide the total of all the labour costs accruing only to the tenderer (i.e. not the suppliers to tenderer).

E11. Factory overheads:

Provide the total of all the factory overheads including rental, depreciation and amortisation for local and imported capital goods, utility costs and consumables. (Consumables are goods used by individuals and businesses that must be replaced regularly because they wear out or are used up. Consumables can also be defined as the components of an end product that are used up or permanently altered in the process of manufacturing, such as basic chemicals.)

E12. Administration overheads and mark-up:

Provide the total of all the administration overheads, including marketing, insurance, financing, interest and mark-up costs.

E13. Total local content:

The total local content is the sum of the values of E9, E10, E11 and E12. This total must correspond with C24 of Annexure C

SECTION T2.2.22: FORM W: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (SBD 6.2)

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

1.1. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.

1.2. Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

1.3. Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.

1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.

1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where
x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on http:/www.thedti.gov.za/industrial development/ip.jsp at no cost.

1.6. A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation;

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

Description of services, works or goods	Stipulated minimum threshold	Description of services, works or goods	Stipulated minimum threshold
Electrical Cables :		**Steel Construction Materials:**	
• Low Voltage	90%	• Fabricated Structural Steel	100%
		• Roof and Cladding	100%
		• Fasteners	100%
		• Frames	100%
		• Reinforcing Bars	100%

3. Does any portion of the goods or services offered have any imported content?
(***Tick applicable box***)

YES		NO	

3..1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on www.reservebank.co.za

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	**Rates of exchange**
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. .....

ISSUED BY: (Procurement Authority / Name of Institution):
.....
NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thdti.gov.za/industrial_development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ... (full names), do hereby declare, in my capacity as ..... of .....(name of bidder entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:

(i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.
The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____ **DATE:** _____

WITNESS No. 1 _____ **DATE:** _____

WITNESS No. 2 _____ **DATE:** _____

Example

SATS 1286.2011

Annex C CASE STUDY ONE

Local Content Declaration - Summary Schedule

(C1)	Tender No.	GP 100010
(C2)	Tender description:	Office Desks and Chairs
(C3)	Designated product(s)	Office Furniture
(C4)	Tender Authority:	Gauteng Purchasing Department
(C5)	Tendering Entity name:	Rainbow Office Furniture
(C6)	Tender Exchange Rate:	USD R 9.00 EU R 12.00 GBP R 14.00
(C7)	Specified local content %	85%

Note: VAT to be excluded from all calculations

		Calculation of local content						Tender summary			
Tender item no's	List of items	Tender price - each (excl VAT)	Exempted imported value per unit	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Tender Qty	Total tender value	Total exempted imported content	Total imported content
				(C10-C11)	(Annexure D M31+P50+P60)	(C12-C13)	C14/C12		(C10xC16)	Annex D D18	Annex D
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	(C16)	(C17)	(C18)	(C19)
GP 100011	Melamine Office Desks with Drawers	R 12 000	R 0	R 12 000	R 0	R 12 000	100%	100	R 1 200 000	R 0	R 123 200
					(Annexure D M34+P50+P60)						
GP 100012	Office desk with drawers on timber top with steel frame	R 13 000.00	R 1 650.00	R 13 350.00	R 1 232.00	R 12 118.00	91%	50	R 750 000	R 82 500	R 116 850
GP 100013	Side upholstered chair - Sleigh base with arms	R 10 450.00	R 2 170.00	R 8 280.00	R 2 617.00	R 5 663.00	68%	100	R 1 045 000	R 217 000	R 261 700
GP 100014	Highback upholstered chair with arms on 5 star base	R 12 200.00	R 2 720.00	R 9 480.00	R 2 537.00	R 6 943.00	73%	50	R 610 000	R 231 000	R 31 950

(C20) Total tender value	R 3 605 000	
(C21) Total Exempt imported content	R 530 500	
(C22) Total Tender value net of exempt imported content (C20-C21)	R 3 074 500	
(C23) Total imported content		R 533 700
(C24) Total local content (C22-C23)		R 2 540 800
(C25) Average local content % of tender (C24/C22)		82.64%

Signature of tenderer from Annex B

Date:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Example

SANS 1286:2011

Annex D — **RAINBOW CASE STUDY ONE**

Imported Content Declaration - Supporting Schedule to Annex C

(D1)	Tender No.	GP 100010
(D2)	Tender description:	Office Desks and Chairs
(D3)	Designated Products:	Office Furniture
(D4)	Tender Authority:	Gauteng Purchasing Department
(D5)	Tendering Entity name:	Rainbow Office Furniture
(D6)	Tender Exchange Rate:	USD R 9.00

Note: VAT to be extracted from all calculations

EU R 12.00 GBP R 14.00

A. Exempted imported content

Tender Item no's	Description of imported content	Local supplier	Overseas Supplier	Calculation of imported content: Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Summary: Tender Qty	Exempted imported value
						(D13xD12)			(D13+D14+D15)		(D16xD17)
(D7)	(D8)	(D9)	(D10)	(D12)	(D13)	(D14)	(D15)	(D16)	(D17)	(D18)	
GP 100012	Primary Steel	Accelor Mittal	Accelor - USA	$100	R 9.00	R 900	R 200	R 550	R 1 650	50	R 82 500
GP 100013	Primary Steel	United Steel	United Steel USA	$150	R 9.00	R 1 350	R 420	R 400	R 2 170	100	R 217 000
GP 100014	Primary Steel	Alrox Steel	Alrox UK	£150.00	R 12.00	R 1 800	R 350	R 570	R 2 720	50	R 136 000
GP100014	5 star base	Each	Base Specialist - Germany	180.00	R 12.00	R 960	R 460	R 680	R 1 900	50	R 95 000

(D19) Total exempt imported value R 530 590

This total must correspond with Annex C - C21

B. Imported directly by the Tenderer

Tender Item no's	Description of imported content	Unit of measure	Overseas Supplier	Calculation of imported content: Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Summary: Tender Qty	Total imported value
						(D24xD23)			(D24+D27+D28)		(D29xD30)
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)
GP 100011	Melamine	Each	MM Melamine USA	$25	R 9.00	R 225	R 120	R 250	R 595	100	R 59 500
GP100012	Timber Top	Each	Timber City - Germany	£75.00	R 12.00	R 900	R 300	R 500	R 1 700	50	R 85 000
GP 100013	Sleigh Base	Each	Timber York - USA	$100	R 9.00	R 900	R 420	R 660	R 1 980	100	R 198 000
									R 1 980		

(D32) Total imported value by tenderer R 343 500

C. Imported by a 3rd party and supplied to the Tenderer

Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Calculation of imported content: Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Summary: Quantity imported	Total imported value
						(D37xD33)			(D39+D40+D41)		(D42xD43)
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D43)	(D43)	(D44)
Sheet steel	tonne	Accelor SA	Accelor Belgium	£75.00	R 12.00	R 900	R 150	R 50	R 1 100	100	R 110 000
Hinges	each	Ramsay SA	Hinges GB	£2.50	R 14.00	R 35	R 10	R 5	R 50	1 200	R 60 000
Other - nuts and bolts	each	Mac Steel	TTC - UK	value too small to itemize							R 3 000

(D45) Total imported value by 3rd party R 173 000

D45 Apportioned per unit R 573

D. Other foreign currency payments

Type of payment	Local supplier making the payment	Overseas beneficiary	Calculation of foreign currency payments: Foreign currency value paid	Tender Rate of Exchange	Summary of payments: Local value of payments
					(D48xD50)
(D46)	(D47)	(D48)	(D49)	(D50)	(D51)
Royalty payment for use of patent	Rainbow Office Furniture	Oban USA	$800	R 9.00	R 7 200
Annual licence fees - processed	Rainbow Office Furniture	MB - Germany	£1 000.00	R 12.00	R 12 000

(D52) Total of foreign currency payments declared by tenderer and/or 3rd party R 19 200

D52 Apportioned per unit R 64

(D53) Total of imported content & foreign currency payments - (D22), (D45) & (D47) above R 513 700

This total must correspond with Annex C - C23

Signature of tenderer from Annex B

Date:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Example

SATS 1286.2011

Annex E - RAINBOW CASE STUDY ONE

Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.	GP 100010
(E2)	Tender description:	Office Desks and Chairs
(E3)	Designated products:	Office Furniture
(E4)	Tender Authority:	Gauteng Purchasing Department
(E5)	Tendering Entity name:	Rainbow Office Furniture

Note: VAT to be excluded from all calculations

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value	
	(E6)	(E7)	(E8)	
	Sheet Steel	Arcelor	R 300 000	
	Fabric for seats	Galvenor Textiles	R 270 000	
	Fabric for headlinings	Galvenor Textiles	R 32 000	
	Welding comsumables	ABR Supplies	R 12 000	
	Hardware items (nuts, bolts, rivets, etc)	Various Local Suppliers	R 2 000	
	Laser cutting services	Red Hot Cutting	R 47 500	
	Other goods and services (small items)	Various	R 1 300	
	(E9) Total local products (Goods, Services and Works)		R 664 800	26%

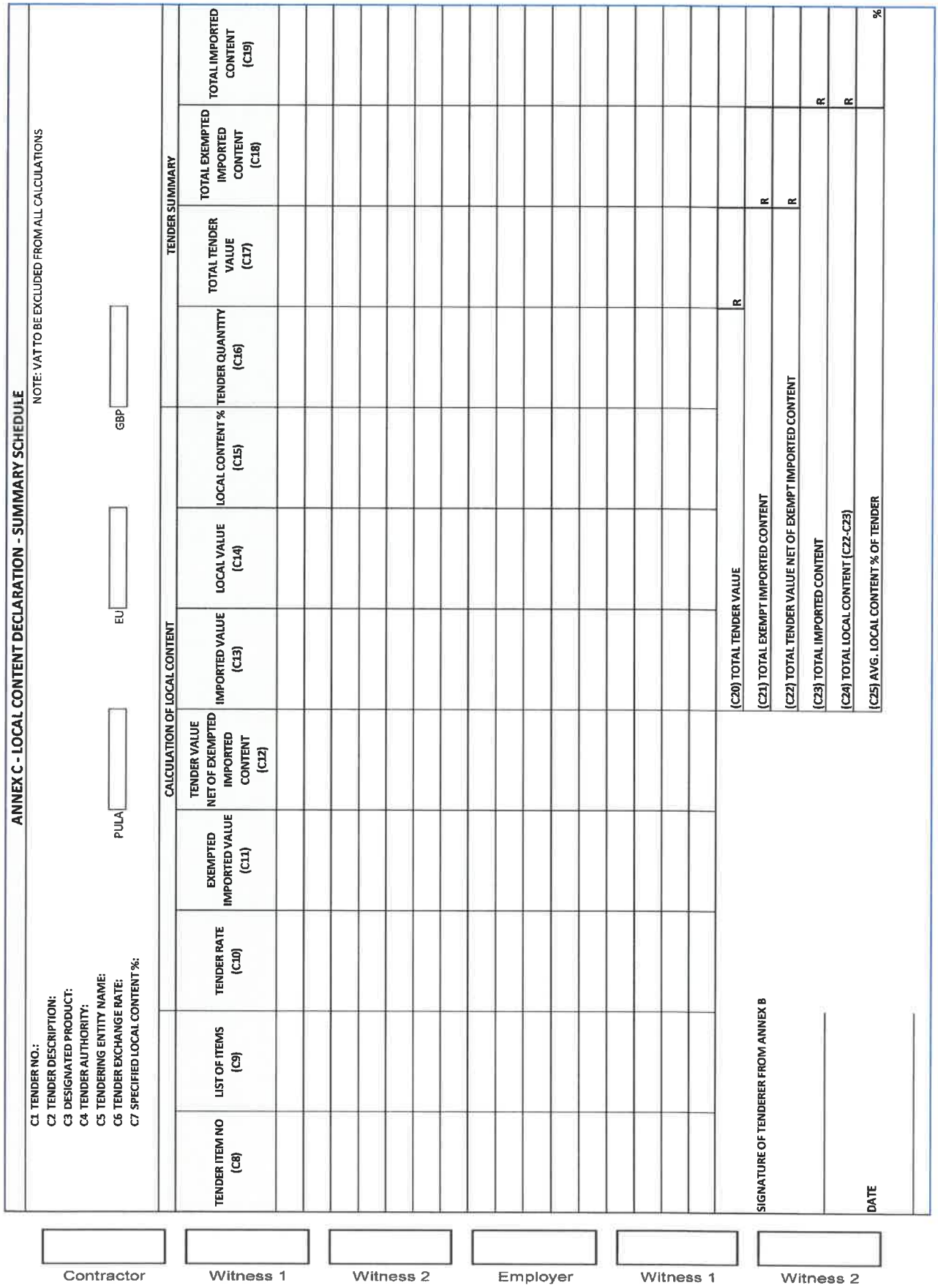
(E10)	Manpower costs	(Tenderer's manpower cost)	R 1 150 000	45%
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R 486 000	19%
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc.)	R 240 000	9%
		(E13) Total local content	R 2 540 800	100%

This total must correspond with Annex C: - C24

Description of services, works or goods	Stipulated minimum threshold	Description of services, works or goods	Stipulated minimum threshold
Electrical Cables :		**Steel Construction Materials:**	
• Low Voltage	90%	• Fabricated Structural Steel	100%
		• Roof and Cladding	100%
		• Fasteners	100%
		• Frames	100%
		• Reinforcing bars	100%

Electrical Cables – Annex C

(90%) – Refer to the following items in BOQ: Bill 12; items 1.1 to 1.7



ANNEX C - LOCAL CONTENT DECLARATION - SUMMARY SCHEDULE

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

C1 TENDER NO.:
C2 TENDER DESCRIPTION:
C3 DESIGNATED PRODUCT:
C4 TENDER AUTHORITY:
C5 TENDERING ENTITY NAME:
C6 TENDER EXCHANGE RATE: PULA EU GBP
C7 SPECIFIED LOCAL CONTENT %:

CALCULATION OF LOCAL CONTENT									TENDER SUMMARY			
TENDER ITEM NO (C8)	LIST OF ITEMS (C9)	TENDER RATE (C10)	EXEMPTED IMPORTED VALUE (C11)	TENDER VALUE NET OF EXEMPTED IMPORTED CONTENT (C12)	IMPORTED VALUE (C13)	LOCAL VALUE (C14)	LOCAL CONTENT % (C15)	TENDER QUANTITY (C16)	TOTAL TENDER VALUE (C17)	TOTAL EXEMPTED IMPORTED CONTENT (C18)	TOTAL IMPORTED CONTENT (C19)

Electrical Cables – Annex D

(90%) – Refer to the following items in BOQ: Bill No. 12; Items 1.1 to 1.7

ANNEX D - IMPORTED CONTENT DECLARATION - SUPPORTING SCHEDULE TO ANNEX C

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

D1 TENDER NO.:
D2 TENDER DESCRIPTION:
D3 DESIGNATED PRODUCT:
D4 TENDER AUTHORITY:
D5 TENDERING ENTITY NAME:
D6 TENDER EXCHANGE RATE: PULA EU GBP
D7 SPECIFIED LOCAL CONTENT %:

A. EXEMPTED IMPORTED CONTENT

TENDER ITEM NO (D7)	DESCRIPTION OF IMPORTED CONTENT (D8)	LOCAL SUPPLIER (D9)	OVERSEAS SUPPLIER (D10)	FOREIGN CURRANCY VALUES AS PER COMMERCIAL INVOICE (D11)	TENDER EXCHANGE RATE (D12)	LOCAL VALUE OF IMPORTS (D13)	FREIGHT COSTS TO PORT OF ENTRY (D14)	ALL LOCALLY INCURRED LANDING COSTS & DUTIES (D15)	TOTAL LANDED COST EXCL VAT (D16)	TENDER QUANTITY (D17)	EXEMPTED IMPORTED VALUE (D18)

CALCULATION OF IMPORTED CONTENT — SUMMARY

(D19) TOTAL EXEMPT IMPORTED VALUE R

This total mus correspond with Annex C-C21

B. IMPORTED DIRECTLY BY THE TENDERER

TENDER ITEM NO (D20)	DESCRIPTION OF IMPORTED CONTENT (D21)	UNIT OF MEASURE (D22)	OVERSEAS SUPPLIER (D23)	FOREIGN CURRANCY VALUES AS PER COMMERCIAL INVOICE (D24)	TENDER EXCHANGE RATE (D25)	LOCAL VALUE OF IMPORTS (D26)	FREIGHT COSTS TO PORT OF ENTRY (D27)	ALL LOCALLY INCURRED LANDING COSTS & DUTIES (D28)	TOTAL LANDED COST EXCL VAT (D29)	TENDER QUANTITY (D30)	TOTAL IMPORTED VALUE (D31)

CALCULATION OF IMPORTED CONTENT — SUMMARY

(D32) TOTAL IMPORTED VALUE BY TENDERER R

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Electrical Cables – Annex D (Continued)

(90%) – Refer to the following items in BOQ: Bill No. 12; Items 1.1 to 1.7

C. IMPORTED BY A 3RD PARTY AND SUPPLIED TO THE TENDERER				CALCULATION OF IMPORTED CONTENT						SUMMARY	
DESCRIPTION OF IMPORTED CONTENT (D33)	UNIT OF MEASURE (D34)	LOCAL SUPPLIER (D35)	OVERSEAS SUPPLIER (D36)	FOREIGN CURRANCY VALUES AS PER COMMERCIAL INVOICE (D37)	TENDER EXCHANGE RATE (D38)	LOCAL VALUE OF IMPORTS (D39)	FREIGHT COSTS TO PORT OF ENTRY (D40)	ALL LOCALLY INCURRED LANDING COSTS & DUTIES (D41)	TOTAL LANDED COST EXCL VAT (D42)	TENDER QUANTITY (D43)	TOTAL IMPORTED VALUE (D44)
									[D45] TOTAL IMPORTED VALUE BY 3RD PARTY		R

D. OTHER FOREIGN CURRENCY PAYMENTS			CALCULATION OF FOREIGN CURRENCY PAYMENTS		
TYPE OF PAYMENT (D46)	LOCAL SUPPLIER MAKING THE PAYMENT (D47)	OVERSEAS BENEFICIARY (D47)	FOREIGN CURRENCY VALUE PAID (D49)	TENDER RATE OF EXCHANGE (D50)	

SUMMARY OF PAYMENTS	
LOCAL VALUE OF PAYMENTS (D51)	
(D52) TOTAL OF FOREIGN CURENCY PAYMENTS DECLARED BY TENDERER AND/OR 3RD PARTY	R
(D53) TOTAL OF IMPORTED CONTENT & FOREIGN CURRENCY PAYMENTS (D32, D45, & D52) ABOVE	R

This total mus correspond with Annex C -C23

SIGNATURE OF TENDERER FROM ANNEX B

DATE

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Electrical Cables – Annex E

(90%) – Refer to the following items in BOQ: Bill No. 12; Items 1.1 to 1.7

ANNEX E - LOCAL CONTENT DECLARATION - SUPPORTING SCHEDULE TO ANNEX C

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

E1 TENDER NO.:
E2 TENDER DESCRIPTION:
E3 DESIGNATED PRODUCT:
E4 TENDER AUTHORITY:
E5 TENDERING ENTITY NAME:

LOCAL PRODUCTS (GOODS, SERVICES AND WORKS)	DESCRIPTION OF ITEMS PURCHASED (E6)	LOCAL SUPPLIERS (E7)	VALUE (E8)
		(E6) TOTAL LOCAL PRODUCTS (GOODS, SERVICES AND WORKS)	R

(E10) MANPOWER COST	(Tenderer's manpower cost)	R
(E11) FACTORY OVERHEADS	(Rental, depreciation & amortisation, utility costs, consumables etc.)	R
(E12) ADMINISTRATION OVERHEADS AND MARK-UP	(Marketing, insurance, financing, interest etc.)	R
	(E13) TOTAL LOCAL CONTENT	R

This total mus correspond with Annex C -C24

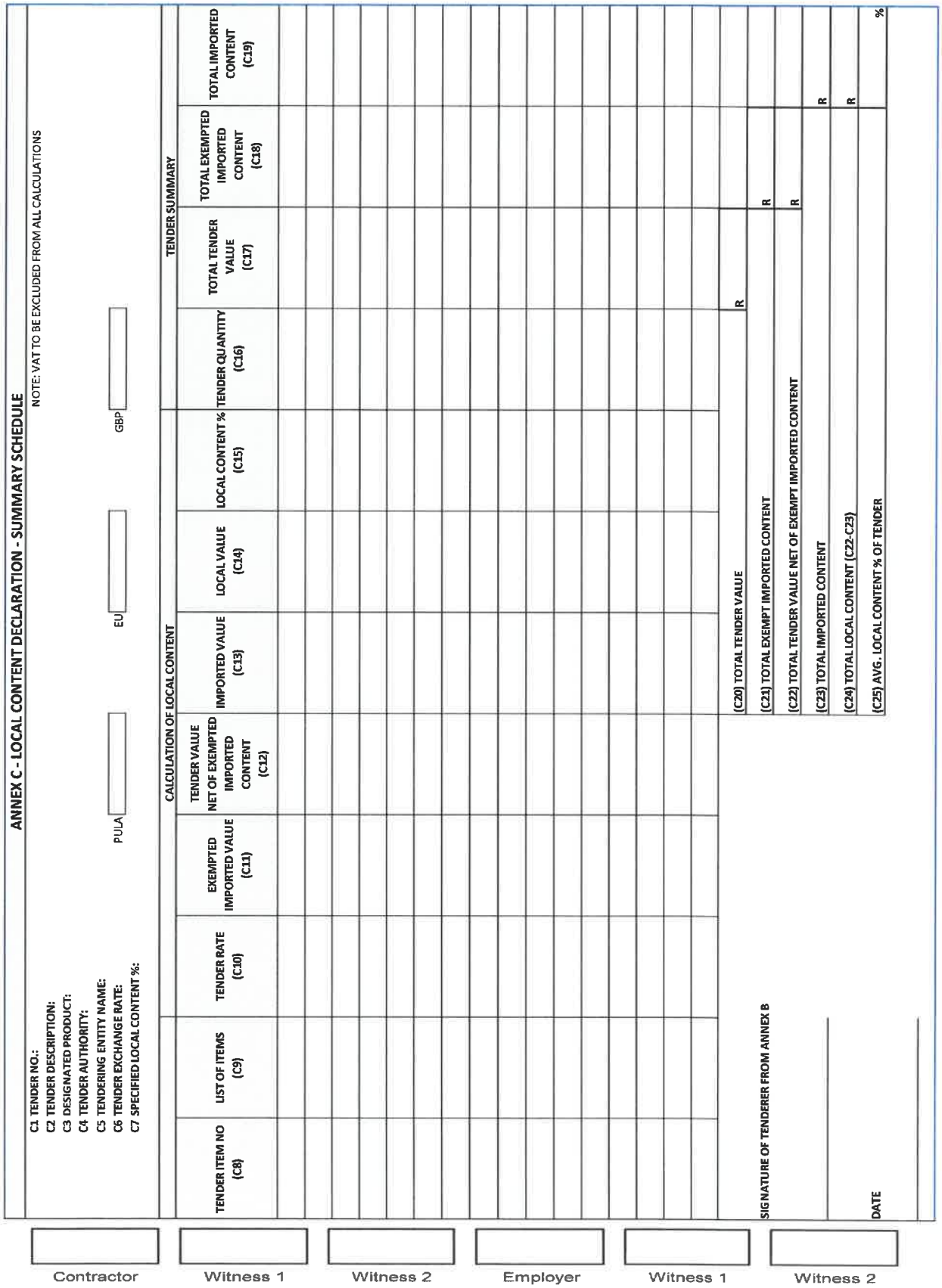
SIGNATURE OF TENDERER FROM ANNEX B

DATE

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Steel Construction Materials – Annex C

(100%) – Refer to the following items in BOQ: Bill No. 5 items 1 to 2 & 4 to 8; Bill No.8; items 1 to 14; Bill No. 9; items 1,2 & 5



ANNEX C - LOCAL CONTENT DECLARATION - SUMMARY SCHEDULE

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

C1 TENDER NO.:
C2 TENDER DESCRIPTION:
C3 DESIGNATED PRODUCT:
C4 TENDER AUTHORITY:
C5 TENDERING ENTITY NAME:
C6 TENDER EXCHANGE RATE: PULA EU GBP
C7 SPECIFIED LOCAL CONTENT %:

CALCULATION OF LOCAL CONTENT									TENDER SUMMARY		
TENDER ITEM NO (C8)	LIST OF ITEMS (C9)	TENDER RATE (C10)	EXEMPTED IMPORTED VALUE (C11)	TENDER VALUE NET OF EXEMPTED IMPORTED CONTENT (C12)	IMPORTED VALUE (C13)	LOCAL VALUE (C14)	LOCAL CONTENT % (C15)	TENDER QUANTITY (C16)	TOTAL TENDER VALUE (C17)	TOTAL EXEMPTED IMPORTED CONTENT (C18)	TOTAL IMPORTED CONTENT (C19)

Steel Construction Materials – Annex C (Continued)

(100%) – Refer to the following items in BOQ: Bill No. 5 items 1 to 2 & 4 to 8; Bill No.8; items 1 to 14; Bill No. 9; items 1,2 & 5

ANNEX C - LOCAL CONTENT DECLARATION - SUMMARY SCHEDULE

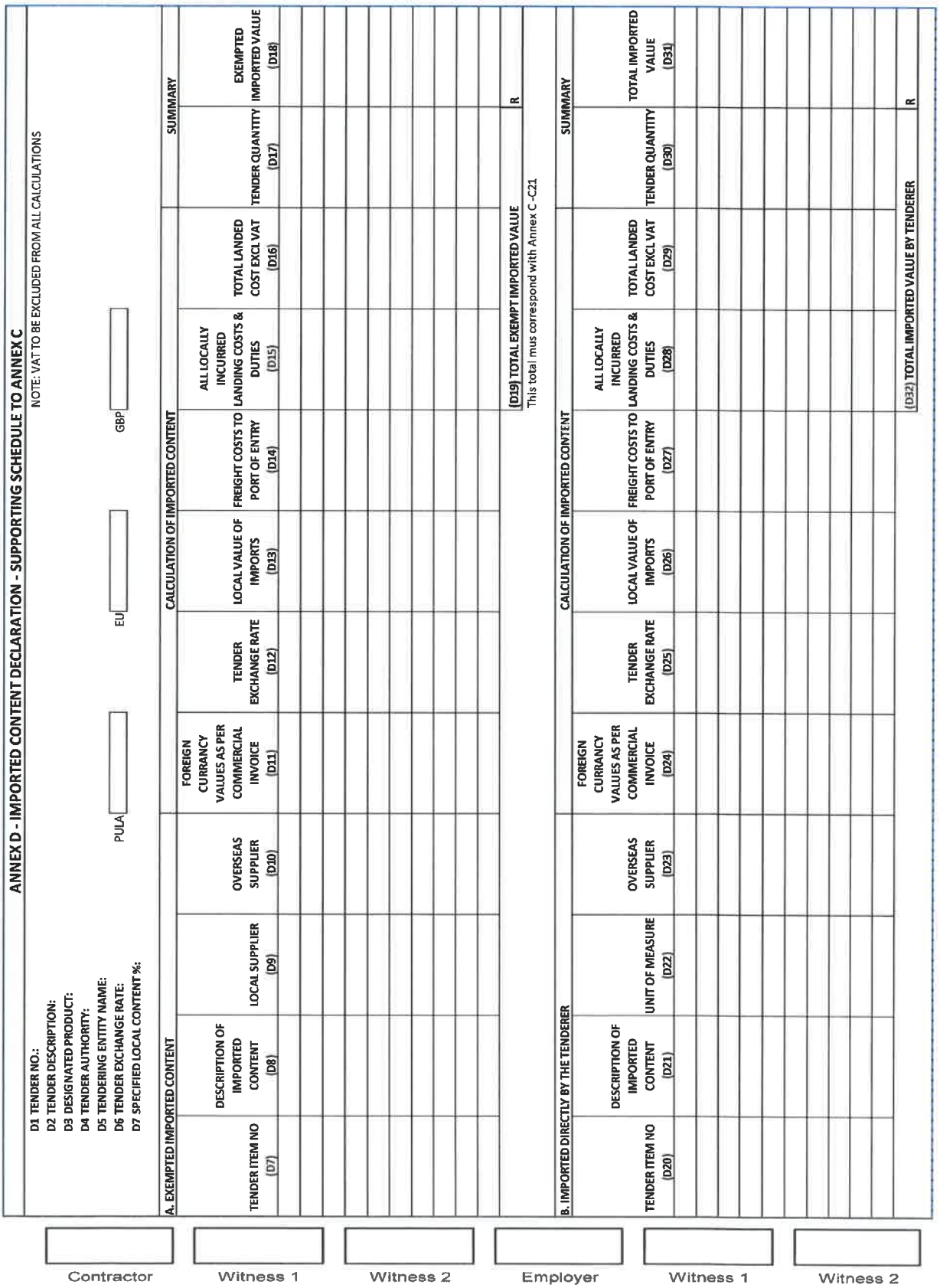
NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

C1 TENDER NO.:
C2 TENDER DESCRIPTION:
C3 DESIGNATED PRODUCT:
C4 TENDER AUTHORITY:
C5 TENDERING ENTITY NAME:
C6 TENDER EXCHANGE RATE: PULA _____ EU _____ GBP _____
C7 SPECIFIED LOCAL CONTENT %:

TENDER ITEM NO (C8)	LIST OF ITEMS (C9)	CALCULATION OF LOCAL CONTENT							TENDER SUMMARY			
		TENDER RATE (C10)	EXEMPTED IMPORTED VALUE (C11)	TENDER VALUE NET OF EXEMPTED IMPORTED CONTENT (C12)	IMPORTED VALUE (C13)	LOCAL VALUE (C14)	LOCAL CONTENT % (C15)	TENDER QUANTITY (C16)	TOTAL TENDER VALUE (C17)	TOTAL EXEMPTED IMPORTED CONTENT (C18)	TOTAL IMPORTED CONTENT (C19)

Steel Construction Materials – Annex D

(100%) – Refer to the following items in BOQ: Bill No. 5 items 1 to 2 & 4 to 8; Bill No.8; items 1 to 14; Bill No. 9; items 1,2 & 5



ANNEX D - IMPORTED CONTENT DECLARATION - SUPPORTING SCHEDULE TO ANNEX C

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

D1 TENDER NO.:
D2 TENDER DESCRIPTION:
D3 DESIGNATED PRODUCT:
D4 TENDER AUTHORITY:
D5 TENDERING ENTITY NAME:
D6 TENDER EXCHANGE RATE: PULA EU GBP
D7 SPECIFIED LOCAL CONTENT %:

A. EXEMPTED IMPORTED CONTENT — CALCULATION OF IMPORTED CONTENT — SUMMARY

TENDER ITEM NO (D7)	DESCRIPTION OF IMPORTED CONTENT (D8)	LOCAL SUPPLIER (D9)	OVERSEAS SUPPLIER (D10)	FOREIGN CURRANCY VALUES AS PER COMMERCIAL INVOICE (D11)	TENDER EXCHANGE RATE (D12)	LOCAL VALUE OF IMPORTS (D13)	FREIGHT COSTS TO PORT OF ENTRY (D14)	ALL LOCALLY INCURRED LANDING COSTS & DUTIES (D15)	TOTAL LANDED COST EXCL VAT (D16)	TENDER QUANTITY (D17)	EXEMPTED IMPORTED VALUE (D18)

(D19) TOTAL EXEMPT IMPORTED VALUE R

This total mus correspond with Annex C -C21

B. IMPORTED DIRECTLY BY THE TENDERER — CALCULATION OF IMPORTED CONTENT — SUMMARY

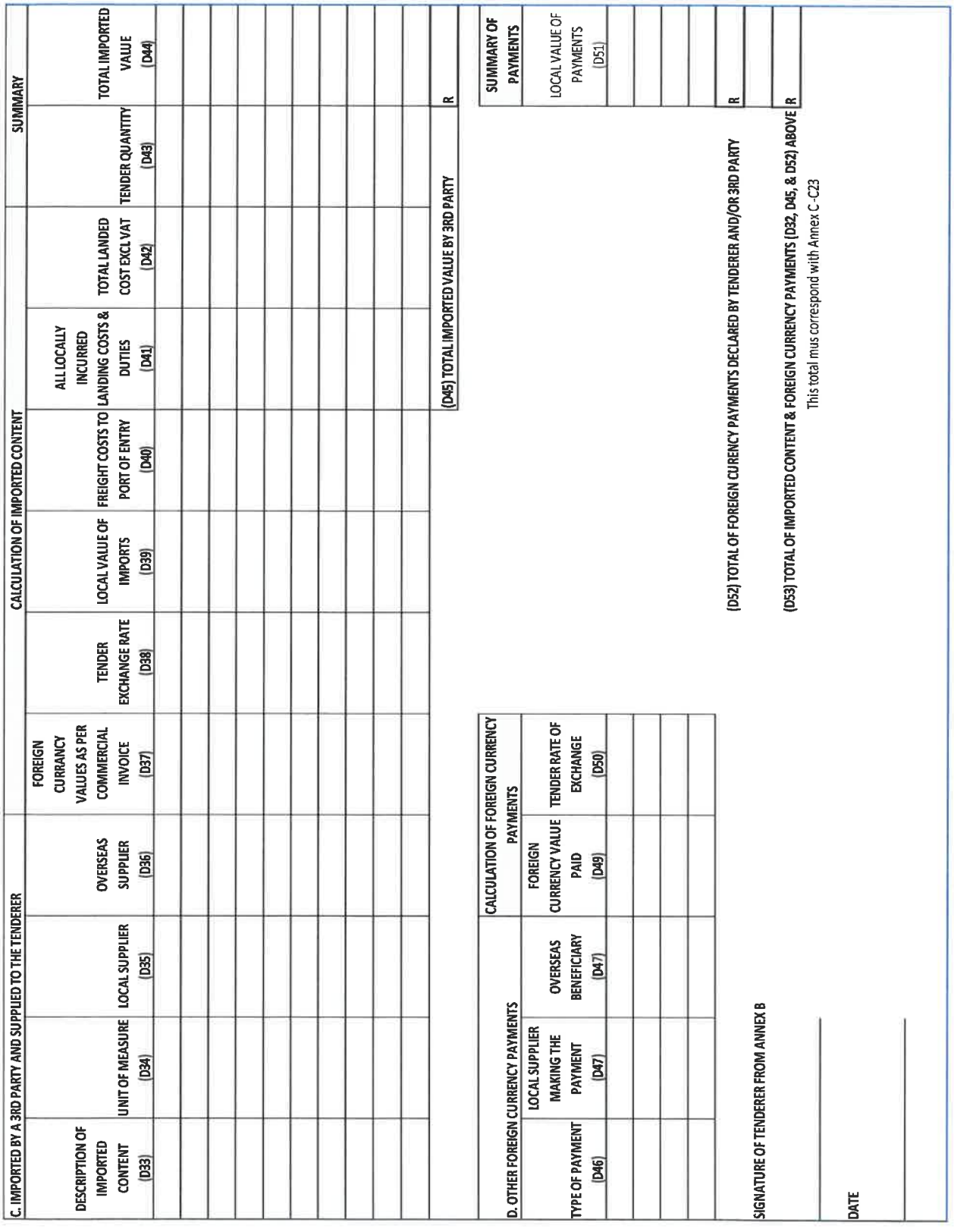
TENDER ITEM NO (D20)	DESCRIPTION OF IMPORTED CONTENT (D21)	UNIT OF MEASURE (D22)	OVERSEAS SUPPLIER (D23)	FOREIGN CURRANCY VALUES AS PER COMMERCIAL INVOICE (D24)	TENDER EXCHANGE RATE (D25)	LOCAL VALUE OF IMPORTS (D26)	FREIGHT COSTS TO PORT OF ENTRY (D27)	ALL LOCALLY INCURRED LANDING COSTS & DUTIES (D28)	TOTAL LANDED COST EXCL VAT (D29)	TENDER QUANTITY (D30)	TOTAL IMPORTED VALUE (D31)

(D32) TOTAL IMPORTED VALUE BY TENDERER R

Contractor | Witness 1 | Witness 2 | Employer | Witness 1 | Witness 2

Steel Construction Materials – Annex D (Continued)

(100%) – Refer to the following items in BOQ: Bill No. 5 items 1 to 2 & 4 to 8; Bill No.8; items 1 to 14; Bill No. 9; items 1,2 & 5



C. IMPORTED BY A 3RD PARTY AND SUPPLIED TO THE TENDERER					CALCULATION OF IMPORTED CONTENT						SUMMARY	
DESCRIPTION OF IMPORTED CONTENT (D33)	UNIT OF MEASURE (D34)	LOCAL SUPPLIER (D35)	OVERSEAS SUPPLIER (D36)	FOREIGN CURRANCY VALUES AS PER COMMERCIAL INVOICE (D37)	TENDER EXCHANGE RATE (D38)	LOCAL VALUE OF IMPORTS (D39)	FREIGHT COSTS TO PORT OF ENTRY (D40)	ALL LOCALLY INCURRED LANDING COSTS & DUTIES (D41)	TOTAL LANDED COST EXCL VAT (D42)	TENDER QUANTITY (D43)	TOTAL IMPORTED VALUE (D44)
								(D45) TOTAL IMPORTED VALUE BY 3RD PARTY		R	R

D. OTHER FOREIGN CURRENCY PAYMENTS			CALCULATION OF FOREIGN CURRENCY PAYMENTS		
TYPE OF PAYMENT (D46)	LOCAL SUPPLIER MAKING THE PAYMENT (D47)	OVERSEAS BENEFICIARY (D47)	FOREIGN CURRENCY VALUE PAID (D49)	TENDER RATE OF EXCHANGE (D50)	

SUMMARY OF PAYMENTS	
LOCAL VALUE OF PAYMENTS (D51)	
(D52) TOTAL OF FOREIGN CURENCY PAYMENTS DECLARED BY TENDERER AND/OR 3RD PARTY	R
(D53) TOTAL OF IMPORTED CONTENT & FOREIGN CURRENCY PAYMENTS (D32, D45, & D52) ABOVE	R

This total mus correspond with Annex C-C23

SIGNATURE OF TENDERER FROM ANNEX B

DATE

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Steel Construction Materials – Annex E

(100%) – Refer to the following items in Bill No. 5 items 1 to 2 & 4 to 8; Bill No.8; items 1 to 14; Bill No. 9; items 1,2 & 5

ANNEX E - LOCAL CONTENT DECLARATION - SUPPORTING SCHEDULE TO ANNEX C

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

E1 TENDER NO.:
E2 TENDER DESCRIPTION:
E3 DESIGNATED PRODUCT:
E4 TENDER AUTHORITY:
E5 TENDERING ENTITY NAME:

LOCAL PRODUCTS (GOODS, SERVICES AND WORKS)	DESCRIPTION OF ITEMS PURCHASED (E6)	LOCAL SUPPLIERS (E7)	VALUE (E8)
		(E6) TOTAL LOCAL PRODUCTS (GOODS, SERVICES AND WORKS)	R
(E10) MANPOWER COST	(Tenderer's manpower cost)		R
(E11) FACTORY OVERHEADS	(Rental, depreciation & amortisation, utility costs, consumables etc.)		R
(E12) ADMINISTRATION OVERHEADS AND MARK-UP	(Marketing, insurance, financing, interest etc.)		R
		(E13) TOTAL LOCAL CONTENT	R

This total mus correspond with Annex C -C24

SIGNATURE OF TENDERER FROM ANNEX B

DATE

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Steel Construction Materials – Annex E (Continued)

(100%) – Refer to the following items in BOQ: Bill No. 5 items 1 to 2 & 4 to 8; Bill No.8; items 1 to 14; Bill No. 9; items 1,2 & 5

ANNEX E - LOCAL CONTENT DECLARATION - SUPPORTING SCHEDULE TO ANNEX C

NOTE: VAT TO BE EXCLUDED FROM ALL CALCULATIONS

E1 TENDER NO.:
E2 TENDER DESCRIPTION:
E3 DESIGNATED PRODUCT:
E4 TENDER AUTHORITY:
E5 TENDERING ENTITY NAME:

LOCAL PRODUCTS (GOODS, SERVICES AND WORKS)	DESCRIPTION OF ITEMS PURCHASED (E6)	LOCAL SUPPLIERS (E7)	VALUE (E8)
	(E6) TOTAL LOCAL PRODUCTS (GOODS, SERVICES AND WORKS)		R
(E10) MANPOWER COST	(Tenderer's manpower cost)		R
(E11) FACTORY OVERHEADS	(Rental, depreciation & amortisation, utility costs, consumables etc.)		R
(E12) ADMINISTRATION OVERHEADS AND MARK-UP	(Marketing, insurance, financing, interest etc.)		R
		(E13) TOTAL LOCAL CONTENT	R

This total mus correspond with Annex C -C24

SIGNATURE OF TENDERER FROM ANNEX B

DATE

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT

CONTRACT NO: DALRRD-RID-FS 003 (2021/2022)

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE.

THE CONTRACT

PART C1	AGREEMENT AND CONTRACT DATA	C1.1 – C1.18
PART C2	PRICING DATA	C2.1 – C2.9
PART C3	SCOPE OF WORKS	C3.1 – C3.46
PART C4	SITE INFORMATION	C4.1 – C4.3
PART C5	ANNEXURES	C5.1 – C5.36

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PART C1: AGREEMENTS AND CONTRACT DATA

INDEX

Section	*Description*	*Page No*
C1.1	FORM OF OFFER AND ACCEPTANCE.....	C1.1.1
C1.2	CONTRACT DATA.....	C1.2.1
C1.3	FORM OF GUARANTEE.....	C1.3.1
C1.4	OCCUPATIONAL HEALTH AND SAFETY AGREEMENT.....	C1.4.1

C1.1 FORM OF OFFER AND ACCEPTANCE

FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

OFFER

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE.

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

The Bidder, identified in the Offer signature block below, has examined the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, and by submitting this Offer has accepted the Conditions of Bid.

By the representative of the Bidder, deemed to be duly authorised, signing this apart of this Form of Offer and Acceptance, the Bidder offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS

_____

_____ Rand *[in words]*; R _____ *[in figures]*.

(Should there be a discrepancy between the amount in words and the amount in figures then the amount in figures shall govern.)

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Bidder before the end of the period of validity stated in the Bid Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the Bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

FOR THE TENDERER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____

(Name and address of organisation)

Name and Signature Of Witness _____ _____

Date _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

ACCEPTANCE

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Bidder's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the, Conditions of Contract identified in the Contract Data. Acceptance of the Bidder's Offer shall form an agreement, between the Employer and the Bidder upon the terms and conditions contained in this Agreement and in the, Contract that is the subject of this Agreement.

The terms of the contract, are contained in

Section 1.1 (which includes this Agreement)
Section 1.2 (which includes this Agreement)

Section 2 Form of Bid

And drawings and documents or parts thereof, which may be incorporated by reference into Section 1 to Section 7 above.

Deviations from and amendments to the documents listed in the Bid Data and any addenda thereto listed in the Bid Schedules as well as any changes to the terms of the Offer agreed by the Bidder and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Bidder shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the, Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date of the acceptance of the Tenderer's offer. Unless the Bidder (now Contractor) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the Bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement

FOR THE EMPLOYER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

Department of Agriculture, Land Reform and Rural Development
136 Charlotte Maxeke Street
Bloemfontein
9300

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Part C: The Contract

Name and Signature
Of Witness _____

Date _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the bid documents issued by the Employer prior to the bid closing date is limited to those permitted in terms of the Conditions of Bid.
2. A Bidder's covering letter shall not be included in the final contract document. Should any matter in such, letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of, offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the bid documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.
4. Any change or addition to the bid documents arising from the above agreements and recorded here shall also be incorporated into the final draft of the Contract.

1 **Subject** _____

Details _____

2 **Subject** _____

Details _____

3 **Subject** _____

Details _____

4 **Subject** _____

Details _____

5 **Subject** _____

Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Bidder agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Bid Data and addenda thereto as listed in the Bid Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Bidder and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Part C: The Contract

FOR THE TENDERER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____

(Name and address of organisation)

Name and Signature
Of Witness _____ _____

Date _____

FOR THE EMPLOYER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

Department of Agriculture, Land Reform and Rural Development
136 Charlotte Maxeke Street
Bloemfontein
9300

Name and Signature
Of Witness _____ _____

Date _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C1.2 CONTRACT DATA

C1.2.1 THE JOINT BUILDING CONTRACTS COMMITTEE

*The Conditions of Contract are the **JBCC Series 2000 Principal Building Agreement (March 2014 Edition 6.1)**published by the Joint Building Contract Committee.*

*Copies of these documents may be obtained from the **Association of South African Quantity Surveyors** (011-315 4140), the **Master Builders Association** (011-205 9000), the **South African Association of Consulting Engineers** (011-463 2022) or the **South African Institute of Architects** (011-486 0684).*

C1.2.2 CHANGES TO THE JBCC PRINCIPAL AGREEMENT

The tenderer attention is drawn to the Bill 1 of the Bills of Quantities. **The amendments contained herein or in the single referenced Annexure (as per the signed Contract Data) constitute the only amendments to the standard JBCC Agreement that will apply. No other amendments shall be of any force or effect.**

All Errata issued by the JBCC is listed in the Bills of Quantities and not listed below. Should there be any discrepancy between the clause amendments below and Bill 1, Bill 1 will take precedence.

Clause 1.0: Definitions

Clause	*Data*
1.1	The definition of **agreement** is replaced with the following definition : **"AGREEMENT** : The **JBCC** Principal Building Agreement, the completed **JBCC** PBA contract data, the **contract drawings**, the **priced documents** and any other documents reduced to writing and signed by the **parties"** **NAME OF EMPLOYER:** Department of Agriculture, Land Reform and Rural Development.
1.3	Add the following new clause: "1.3" The tender documents have been drafted in English. The contract arising from the invitation of tender shall be interpreted and construed in English.

Clause 2.0: Law, Regulations and Notice

2.1	Without limiting the generality of the provisions of clause 2.0, the **contractor's** attention is drawn to the provisions of Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993. It is specifically stated that the **employer** shall prepare a documented health and safety specification for the **works** (refer to Annexure C5 for a copy of the relevant specification) and that the **employer** shall ensure that the **contractor** has made provision for the cost of health and safety measures during the execution of the **works**. The **contractor** shall price opposite this item for compliance with the act and the regulations and the provisions of the aforementioned health and safety specification [2.1] The **contractor** shall: 1. Comply with the health and safety specification for the **works** 2. Prepare and agree with the health and safety consultant the health and safety plan for the **works** 3. Co-operate with the health and safety consultant in all respects

Part C: The Contract

Clause 3.0: Offer and Acceptance

	No change from Principal Building Agreement

Clause 4.0: Assignment and Cession

	No change from Principal Building Agreement

Clause 5.0: Contract Documents

Clause	*Data*
5.1	Add the following to the clause: The original signed set of **contract documents** is to be held by the **Employer.**
5.3	Clause 5.3 is deemed to be deleted
5.5	All drawings for this project will be issued electronically and the **contractor** shall be deemed to have received such drawings on the date that such drawings have been dispatched electronically [5.5]
5.6	Clause 5.6 is deemed to be deleted. The provisions of this Bill No. 1 (Preliminaries) shall take precedence over any other documents which constitute this **agreement** [5.6]

Clause 6.0: Employer's Agent

6.2	**Delegated authority** The authority of the principal agent to issue contract instructions and perform duties for specific aspects of the works is delegated to agents as follows [6.2]: This delegated authority will be defined in writing when the site is handed over to the contractor.

Clause 7.0: Design Responsibility

	No change from Principal Building Agreement

Clause 8.0: Works Risk

	No change from Principal Building Agreement

Clause 9.0: Indemnities

	No change from Principal Building Agreement

Clause 10.0: Insurances

Clause	*Data*
10.1.2	Add the following to the clause: The Contractor will affect Contract Works Insurance to be limited to, the Tender amount including VAT plus 20%, and Public Liability to be limited to **R7 000 000** under the contract. The contractor must ensure that any damage to the existing building (e.g. structural) be included in his Public Liability insurance. The Employer will not provide for any insurance as it will be provided for by the Contractor.

Clause 11.0: Security

	No change from Principal Building Agreement

Clause 12.0: Duties of the Parties

12.1.2 to 12.1.6 and 12.2.18	**Provisions of clauses 12.1.2 to 12.1.6 and 12.2.18** Refer to the **contract data**, the Preliminaries document and "Section B : Preliminaries" of this Bill No. 1 with reference to the provisions of clauses 12.1.2 to 12.1.6 and 12.2.18 of the **JBCC** Principal Building Agreement

Clause 13.0: Setting Out

	No change from Principal Building Agreement

Clause 14.0: Nominated Subcontractors

	No change from Principal Building Agreement

Clause 15.0: Selected Subcontractors

	No change from Principal Building Agreement

Clause 16.0: Direct Contractors

16.1	**Attendance on direct contractors** In respect of **direct contractors** the **contractor** shall: 1. Designate an area for the **direct contractor** to establish a temporary office and workshop and storage of equipment and materials 2. Allow the use of personnel welfare facilities, where provided 3. Provide water, lighting and single phase electric power to a position within 50m of the place where the direct contract work is to be carried out, other than fuel or power for commissioning of any installation 4. Permit the **direct contractor** to use erected scaffolding, hoisting facilities, etc provided by the **contractor**, in common with others having the like right, while it remains erected on the **site** [16.1]

Clause 17.0: Contract Instructions

	Instructions issued on **site** are to be recorded in a site instruction book which is to be supplied and maintained on **site** by the **contractor**

Clause 18.0: Interim Completion

	No change from Principal Building Agreement

Clause 19.0: Practical Completion

	Add the following to the clauses: ***"The time to achieve practical completion is four (4) months"***

Clause 20.0: Sectional Completion

	No change from Principal Building Agreement

Clause 21.0: Defects Liability Period and Final Completion

	Change the period from ninety (90) calendar days to three hundred and sixty-five (365) calendar days

Clause 22.0: Latent Defects Liability Period

	No change from Principal Building Agreement

Clause 23.0: Revision of the Date for Practical Completion

Clause	***Data***
17.1.8, 23.1 & 2	The removal or substitution of any **materials and goods** which do not conform to the specification or the **contract drawings** shall not constitute grounds for the extension of the **construction period** nor for the adjustment of the **contract value** [17.1.8, 23.1 & 2]

Clause 24.0: Penalty for Late or No-Completion

Clause	***Data***
	Add the following to the clause: "It is therefore the contractor's responsibility to ensure that Practical Completion is achieved by the due date, failing which penalties will be charged per calendar day that the contractor falls behind until such time that works are completed in full. The penalty for failing to complete the Works is: the lesser of R 2 000 or 1/20 of 1% of the offered total of prices excluding VAT per calendar day"

Clause 25.0: Payment

Clause	***Data***
25.7	Replace clause 25.7 with the following: The Employer shall pay the Contractor the amount certified within **30 (thirty) calendar days** from the date of receipt of the Contractor's original VAT Invoice in support of payment certificate at the Physical address of the Employer. Where prices are submitted by the **contractor** or **subcontractor** during the progress of the **works** in respect of **contract instructions** or in regard to a claim under the terms of this **agreement** and notwithstanding the fact that such prices may be used in an interim **payment certificate**, there is to be no presumption of acceptance. Should the **principal agent** wish to accept any such prices prior to the issue of the **certificate of final completion**, it shall be in writing

Clause 26.0: Adjustment of the Contractor Value and Final Account

Clause	***Data***
26.1	**Add the following to the existing clause** **Any Contract Variations** with a financial implication must be approved by the Department in line with the Departmental Approved Supply Chain Management Delegation of Authority. **Contingencies**: Contingencies are under the sole control of the Department and upon approval in line with the Departmental Approved Supply Chain Management Delegation of Authority.

26.6	**Add the following to the existing clause** The **contractor** shall review, assess and adjudicate any claims received by him from any **subcontractor** and thereafter submit same to the **principal agent** with a recommendation in order to assist the **principal agent** in adjudicating the claim [26.6]

Clause 27.0: Recovery of Expense and/or Loss

	No change from Principal Building Agreement

Clause 28.0: Suspension by the Contractor

	No change from Principal Building Agreement

Clause 29.0: Termination

	No change from Principal Building Agreement

Clause 30.0: Dispute Resolution

	No change from Principal Building Agreement

AGREEMENT

The second sentence of the introduction where the parties sign the agreement, namely "Any provision in this agreement..... acceptance by such subcontractor at any time." is deemed to be deleted

The required information of the parties and the amount of the contract sum shall be inserted in the agreement for signature of the agreement by the parties

CONTRACT DATA

Payment of preliminaries

Where Option B is applicable and the initial **construction period** is extended the monthly charge shall be recalculated on the same basis as was initially applied but taking into account the revised **construction period** and the amounts already paid to the **contractor** [CD26.0]

Adjustment of preliminaries

Where the adjustment of **preliminaries** is in terms of Option A, the **construction period** and the initial **construction period** shall be calculated in **working days** [CD 26.0]

Where the adjustment of **preliminaries** is in terms of Option A and sectional completion is required, the **contractor** shall provide the **principal agent** with the division of the categorised amounts into **sections**. Should the **contractor** fail to provide such information within the period stipulated, the categorised amounts shall be prorated to the value of each **section** [CD 26.0]

Where the adjustment of **preliminaries** is required in terms of Option B and sectional completion is required, the **contractor** shall provide the **principal agent** with details of the resources required for each **section** and those that are common to **sections**. Should the **contractor** fail to provide such information within the period stipulated, Option A shall apply [CD 26.0]

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C1.2.1 TENDER INFORMATION

CLAUSE	DATA PROVIDED BY THE EMPLOYER
A1	**Project name** THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE.
A2	**Works description** **1 IMPLEMENTS STORE** • A new implements store (1025m²)
A3	**Site Description** Erf No/Township: **Harrysmith, Free State** Local authority: **Maluti A Phofung Local Municipality** Street address: 28° 17'18.7"S 28° 56'48.9"
A4	**Employer:** **DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT** Postal address: **Private Bag X 20546** **BLOEMFONTEIN** **9300** Physical address: **136 Charlotte Maxeke Street** **BLOEMFONTEIN** **9300** Telephone no: **051 400 4200** Facsimile no: **086 536 6113** E-mail: **momelezi.twantwa@drdlr.gov.za**
A5	Project Manager: Mr Lineo Khama Postal address: Private Bag X 20546 BLOEMFONTEIN 9300 Telephone no: 082 827 5982 E-mail: Lineo.Khama@dalrrd.gov.za

C1.2.2 Applicable Contract Data

CLAUSE	DATA PROVIDED BY THE EMPLOYER
B2	**Law, regulations and notices** Law of the country applicable to the project: **South Africa**
B5	**Contract documents** The original signed set of contract documents is to be held by the Employer. **Priced document** A **Priced bills of quantities (BoQ)** will apply
B10	**Insurances** The Contractor will affect Contract Works Insurance to be limited to, the Tender amount including VAT plus 20%, and Public Liability to be limited to **R7 000 000** under the contract. The contractor must ensure that any damage to the existing building (e.g. structural) be included in his Public Liability insurance.
B11	**Security** The contractor shall provide a Guarantee for Construction to the employer.
B12	**Duties of the parties = employer = site**
9.2.7	Alterations & additions to existing premises – Yes
12.1.2	Premises occupied - yes/no identify area – Yes, external to the building to be refurbished
12.1.3	Relevant natural features to be retained / relocated / removed – to be retained
12.1.6	Statutory and/or other notices to be complied with by the contractor before possession of site can be given (a) Approved Health and Safety Plan (b) Approved Environmental Plan (c) Guarantee / Securities (d) Insurances (e) Approved programme
12.1.7	Possession of the site - intended date Within 120 days from close of tenders provided that the Contractor has complied with the following
12.2.9	In addition to the clause will be expanded to include: "The contractor's programme will adhere to the following minimum requirements: • the commencement date, the due completion date and the planned completion date; • the sequence, timing and resources for carrying out the works;

	• the dates for site access, possession, approvals, instructions, inspections, tests, and all required information; • the events that influence the carrying out of the works, including the float and the contractor's time risk allowances; • other programming information set out in the scope of works; • a detailed cash flow; and • include an update indicating the actual progress against the planned progress at least once a month."
19/20/24	**Practical completion / penalty for late completion** *Add the following to the existing Clauses:* "The penalty for failing to complete the Works is: the lesser of R2 000.00 or 1/20 of 1% of the offered total of prices excluding VAT per calendar da."
B19	**Practical completion** These items will fill be finalised with the successful tenderer.
B25 25.3.4/ 26.9.5	**Payment** Currency: ZAR Contract price adjustment provisions: Will not be apply

C1.2.3 TENDER CLOSING

Please refer to the tender conditions.

C1.2.4 TENDER'S SELECTION

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CLAUSE	DATA PROVIDED BY THE TENDERER
E11 11.1.2 11.1.3	**Securities** Guarantee for construction – yes/no ☐ Guarantee for Construction (fixed) – yes/no ☐
E26	**Payment / Adjustment of Preliminaries** **Payment of preliminaries** Alternative A ☐ or Alternative B ☐ **Adjustment of preliminaries [26.9.4]** Alternative A ☐ or Alternative B ☐ **Note 4 on page 10 of the contract data** Note 4 on page 10 of the **contract data** which relates to any benefit or right in favour of any **subcontractor** shall be deemed to be deleted

C1.3 CONSTRUCTION GUARANTEE (PRO-FORMA)

GUARANTOR DETAILS AND DEFINITIONS

Guarantor means .....
Physical address .....
.....

Guarantor's signatory 1 ..... Capacity .....

Guarantor's signatory 1 ..... Capacity .....
Employer means **DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT**

Contractor means .....
Agent means .....
(Compiler to insert name of agent)
Works means .....
(Compiler to provide reference number and title of contract)
Site means .....
(Compiler to enter site as described in the Contract Data)
Agreement means the General Conditions of Contract for Construction Works 2010
Contract Sum i.e. the total of prices in the Form of Offer and Acceptance inclusive of VAT
Amount in figures R .....
Amount in words ..... (Rand)
Guaranteed Sum means the maximum aggregate amount of R .....
Amount in words ..... (Rand)

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

1 The Guarantor's liability shall be limited to the amount of the Guaranteed Sum as follows:

GUARANTOR'S LIABILITY	PERIOD OF LIABILITY
Maximum Guaranteed Sum (not exceeding 10 % of the contract sum) in the amount of: . . . . (Rands) (R . . . . . .)	From and including the date of issue of this Construction Guarantee and up to and including the date of the only practical completion certificate or the last practical completion certificate where there are sections, upon which this Construction Guarantee shall expire.

2 The Guarantor hereby acknowledges that:

2.1 Any reference in this Guarantee to the Agreement is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.

2.2 Its obligation under this Guarantee is restricted to the payment of money.

3 Subject to the Guarantor's maximum liability referred to in clauses 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in sub-clauses 3.1 to 3.3:

3.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Principal Agent in an interim or final payment certificate has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of sub-clause 3.2

3.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of sub-clause 4.1 and that the sum certified has still not been paid therefore the Employer calls up this Guarantee and demands payment of the sum certified from the Guarantor.

3.3 A copy of the said payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in clause 3.

4 Subject to the Guarantor's maximum liability referred to in clause 1, the Guarantor undertakes to pay the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Guarantee stating that:

4.1 The Agreement has been cancelled due to the Contractor's default and that the Guarantee is called up in terms of clause 4. The demand shall enclose a copy of the notice of cancellation; or

4.2 A provisional sequestration or liquidation court order has been granted against the Contractor and that the Guarantee is called up in terms of clause 4. The demand shall enclose a copy of the court order.

5 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of clauses 3 and 4 shall not exceed the Guarantor's maximum liability in terms of clause 1.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

6 Where the Guarantor is a registered insurer and has made payment in terms of clause 4, the Employer shall upon the date of issue of the final payment certificate submit an expense account to the Guarantor showing how all monies received in terms of the Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

7 Payment by the Guarantor in terms of clause 3 or 4 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this Guarantee on account of any conduct alleged to be prejudicial to the Guarantor

9 The Guarantor chooses the physical address as stated above for all purposes in connection herewith.

10 This Guarantee is neither negotiable nor transferable and shall expire in terms of clause 1, or payment in full of the Guaranteed Sum or on the Guarantee expiry date, whichever is the earlier, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired

11 This Guarantee, with the required demand notices in terms of clauses 3 or 4, shall be regarded as a liquid document for the purpose of obtaining a court order.

12 Where this Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at . . . . . Date . . . . . .

Guarantor's Signatory 1 . . . . . Guarantor's Signatory 2 . . . . . .

Witness 1 . . . . . Witness 2 . . . . . .

Guarantor's seal or stamp

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

LIST OF INSTITUTIONS FROM WHICH CONTRACT SURETIES CAN BE ACCEPTED:

1. ABSA Bank
2. Credit Agricole Indosuez (South Africa Branch)
3. Development Bank of South Africa
4. FirstRand Bank
5. ING Bank N.V. (South Africa Branch)
6. Investec Bank
7. Landbank
8. National Housing Finance Co.
9. Nedcor Bank
10. South African Reserve Bank
11. Standard Bank
12. AIG South Africa
13. Credit Guarantee Insurance Co
14. Emerald Insurance Company
15. Federated Employers Mutual Assurance Co
16. Global Insurance Company
17. Guardrisk Insurance Company
18. Hannover Re:
19. Home Loan Guarantee Company
20. Lion of Africa Insurance Company
21. Metropolitan Life
22. Metropolitan Odyssey Ltd
23. MUA Insurance
24. Mutual & Federal Insurance Company
25. Rand Mutual Assurance Company
26. Regent Insurance Company
27. SA Eagle Insurance Company
28. Lombard Insurance

NB: List of institutions is not limited to the above mentioned; the tenderer may use any other accredited institution to offer contract sureties.

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

This agreement is mandatory for all contractors appointed by the Department of Agriculture, Land Reform and Rural Development.

This agreement is between:

THE CONTRACTOR:

Herein represented by .....

In his capacity as .....Being duly authorized hereto hereinafter referred to as "contractor".

Compensation Commissioner Number:

(Attach a copy of the Registration Certificate to this agreement)

Company : Name:

Registration Number:

CEO : Name:

ID Number:

Physical Address:

.....

And the

DEPARTMENT OF AGRICULTURE, LAND REFORM AND RURAL DEVELOPMENT
(Hereinafter referred to as "the Department")

1. DEFINITIONS

1.1	**CONTRACTOR**	Means the "Contractor" as defined in the "Principal Contract" Annexed hereto in his capacity as mandatory.
1.2	**MANDATORY**	Includes an agent, contractor or subcontractor for work to be done or service rendered, but without derogating from his status in his own right as an employer of people or user of equipment, machinery, tools or materials.
1.3	**THE PRINCIPAL CONTRACT**	Means the contract annexed hereto as annexure "A".
1.4	**DEPARTMENT**	Means the Department of Agriculture, Land Reform and Rural Development.
1.5	**RISK CONTROL OFFICER**	A person appointed in writing by Department.

1.6 Any definitions contained in any Statute hereinafter mentioned shall have the meaning allocated to it by the specific statute.

2. OBJECTIVE

2.1 Whereas Department and the Contractor have entered into a contract for service (work) as fully indicated in the "Principle Contract" and whereas the "Contractor" agreed to indemnify Department against the risks stated hereunder whether foreseeable or not, and, whereas it is agreed between the parties that it is of cardinal importance to safeguard both Department and the Contractor's obligation in terms of relevant legislation as well as to extend the obligation as a company and/or legal person and/or person as an entity concerned with health, safety and the environment.

2.2 These rules are applicable to all contractors performing work for Department within the jurisdictional area of the Department and on any premises which are owned, rented or developed by the Department.

2.3 The Department acts though those officials or persons who are generally or specifically charge with the responsibility, in terms of legislation, as well as any other official or person who is generally or specifically charged with the control and supervision of the project.

IT IS HEREBY AGREED AS FOLLOWS:

3. INDEMNITIES

3.1 The "Contractor" hereby indemnifies the "Department" against any loss in respect of all claims, proceeding, damages, costs and expenses arising out of any claim or proceeding pertaining to the non compliance by the "Contractor" of any statutory requirements and/or requirements regarding the following Acts in particular pertaining to the provisions of:

3.1.1 The Occupational Health and Safety Act 85 of 1993 (as amended), including the Construction Regulations, 2003 as promulgated on 18 July 2003, in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), in Government Gazette No. 25207 and Regulation Gazette No. 7721. See Annexure B.
3.1.2 The Health Act 63 of 1977.
3.1.3 Road Traffic Act 29 of 1989 (as amended).
3.1.4 Environment Conservation Act 73 of 1989.
3.1.5 The National Water Act 36 of 1998.
3.1.6 The Criminal Procedure Act 51 of 1977.
3.1.7 The Explosives Act 26 of 1956.
3.1.8 The Arms and Ammunition Act 75 of 1969.
3.1.9 Compensation for Occupational Injuries and Diseases Act 130 of 1993.
3.1.10 The Labor Relations Act 66 of 1995.
3.1.11 The Unemployment Insurance Act 30 of 1966 (as amended).
3.1.12 The Basic Conditions of Employment Act 75 of 1997 (as amended).
3.1.13 Standards Act 29 of 1993.
3.1.14 any statutory provisions in any act and/or any law or bylaw of any local

government and/or any published official standard incorporated into any statute or bylaw relating to the completion of the work set out in the "Principal Contract".

3.1.15 Any other health and safety standard prescribed by the "Department".

3.2 The "Contractor" shall ensure that he familiarizes himself with the requirements of the above legislation and that he, his employees and any subcontractor will comply with all the statutory provisions contained in them.

3.3 The "Contractor" shall indemnify the "Department" in respect of any physical loss or damage to any plant, equipment or other property belonging to the "Contractor" or for which he is responsible and he hereby indemnifies the "Department" against any loss in respect of all claims, proceedings, damages, costs and expenses consequent upon the loss of or damage to any plant, equipment or other property belonging to, or which is the responsibility of, any subcontractor, agent or employee of the subcontractor.

3.4 The "Contractor" shall and hereby indemnifies the "Department" against any liability, loss, claim or proceedings whatsoever, whether arising in common law or by statute, consequent on personal injuries to or the loss of health or death of any person whosoever arising out of or in the course of or caused by the execution of the "Principal Contract".

3.5 The "Contractor" shall and hereby indemnifies the "Department" against any liability, loss, claim or proceedings consequent on loss of or damage to any movable or immovable property arising out of or in the course of or caused by the execution of the "Principal Contract" and due to any act or omission of the "Contractor", his agents, servants or subcontractors.

4. PERFORMANCE SAFE WORKING PRACTICE

4.1 The "Department" requires a high standard of safe work performance from all employees and expects that the standard be maintained by the "Contractor" within the "Department's" jurisdictional area or on its premises.

4.2 Irrespective of human considerations, the maintaining of these health and safety rules shall be the execution of the prescribed legal requirements. These rules are not to hinder the "Contractor" in rendering services or indemnify the "Contractor" from any legal responsibility to ensure healthy and safe work circumstances.

4.3 The "Department" shall assist the "Contractor" in any practical considerations to accommodate the healthy and safe execution of work and therefore require co-operation in the execution of these safety rules.

5. LOCK OUT PROCEDURE

5.1 When power or air driven machines or equipment, electrical apparatus or pipe lines are examined, repaired, adjusted, cleaned, lubricated or serviced in any other way than normal servicing, then all isolating switches, -levers, valves or appliances must be put in the "off" or "closed" position and locked.

5.2 Should more than one team work on a machine, then each person in control of a team,

must put a separate lock on the switch, lever, valve or appliance.

6. CRANES, VEHICLES AND HOISTING

6.1 For each crane or hoisting equipment used, the "Contractor" must submit a valid and recent test certificate or other form of the last examination of the machine or equipment, to the "Department".

6.2 Only trained personnel with written permission and where determined by Law, with a valid driver's license, may be allowed to operate any electrical diesel or petrol driver overhead crane, hydraulic or electrical hoisting equipment, self driven forklift, tractor or any other crane or vehicle. No employee of the "Contractor" may perform any overhead work or work on an overhead crane or hoisting equipment or work near cranes or crane rail, before:

i) An agreement was concluded with the "Department".

ii) Approval has been obtained from the "Department" to perform the work.

iii) All applicable danger – and warning symbolic signs are put into position, or exemption, if applied for, is in operation.

6.3 The "Contractor" shall be wholly responsible for any loss or damage to cranes, hoisting equipment, plant, machines or equipment brought onto the work site by the "Contractor"

7. MACHINE VALANCES, PROTECTION AN FENDING

7.1 No machine valances, protection or fencing may be removed from machines, manholes, etc without the written permission of "Department" if applicable exemption procedures were not appropriated.

8. SCAFFOLD, LADDERS, TOOLS AND EQUIPMENT

8.1 No equipment or appliance belonging to "Department" may be used without written permission from "Department".

8.2 Unless prior arranged, "Contractors" must bring sufficient tools and equipment to the site to finish the contract, including offices and storerooms. The mentioned equipment remains the responsibility of the "Contractor" with respect to loss, damage and theft.

8.3 In exceptional cases, where tools and equipment belonging to "Department" are used to finish the contract, the said equipment and tools are used on own risk and the "Contractor" indemnifies "Department" from any claims that may arise. The said indemnity must be in writing, as well as information regarding the loan period, identification and condition of tools and equipment. The "Contractor" is responsible for the returning of said tools and equipment in the same condition or better. The "Contractor" is responsible to "Department" for any damage or excessive wear of such tools or equipment and material.

9. EXCAVATIONS

9.1 Before any excavations commence, written permission must be obtained from "Department" to confirm the location of existing electrical cables, water pipes, etc.

9.2 All excavations and obstructions in floor, tar and dirt surfaces must be fenced effectively and safeguarded between sundown and sunup with a sufficient amount of red/yellow warning lights and symbolic signs.

9.3 The surrounding area must be kept clean, safe and tidy during excavation. Excess material may not obstruct unnecessarily.

9.4 If any property is in danger during excavation, it must be supported and the proposed support work must be submitted to the Department of Labour (OHS) and "Department" for approval.

9.5 Written permission must be obtained from "Department" to grant admittance to restricted areas as well as areas where dangerous or poisonous gases are present.

10. FIRST AID

10.1 The "Contractor" must provide and maintain a first aid box equipped according to legal requirement where more than (5) five persons are employed. The first aid box must be in the care of a person with a competency certificate from one of the following organizations:

(i) SA Red Cross Association;
(ii) St Johns Ambulance;
(iii) SA First Aid League; or
(iv) A person or organization approved by the Chief inspector for this purpose.

10.2 A visible notice must be put up on any work premises with the name of the person responsible for first aid. In an emergency "Department's" Ambulance / Fire Department or emergency services may be contacted at .....

11. FLAMMABLE LIQUIDS

11.1 The "Contractor" shall be held responsible for the necessary precautionary fire prevention measures. No smoking signs must be put up where applicable. The "Contractor's" employees must be informed of "Department's" fire prevention measures and evacuation procedures.

12. COMPENSATION BY CONTRACTOR

12.1 The "Contractor" shall be held responsible for all loss of and damage to property, the

death or injury of persons, the resultant loss or damage suffered as well as all law suits, claims, costs, charges, fines and expenses due to negligence, violation of statutory liability or neglect of the "Contractor" or the "Contractor's" employees.

13. TRANSGRESSION OF RULES AND MISBEHAVIOUR

13.1 The "Contractor" is warned that any act(s) leading to damage or loss of employees of the "Contractor" or the "Department" shall not be tolerated. The "Department" may (without any reason) demand that any employee of the "Contractor" be withdrawn from the principal "Contract" or site.

14. INCIDENT REPORTING

14.1 All incidents referred to in Section 24 of the Occupational Health and Safety Act and or other incidents shall be reported, by the "Contractor", to the Department of Labour, as well as to the "Department" and should such an incident take place outside normal working hours, on a Saturday, Sunday or Public holiday to .....
The "Department" shall further be provided with a written report relating to any incident.

14.2 The "Department" will obtain an interest in the issue of any formal inquiry conducted in terms of the Occupational Health and Safety Act in any incident involving the "Contractor" and/or his employees and/or his subcontractors.

14.3 The "Contractor" undertakes to report to "Department" anything deemed to be unhealthy and/or unsafe and that he undertakes to verse his employees and/or subcontractors in this regard.

15. LIAISON AND SUPERVISION

15.1 The "Contractor" hereby undertakes to liaise on a regular basis with the designated Risk Control Officer and "Department" representative regarding any hazards or incidents that may be identified or encountered during the performance of the "Principal Contract".

16. SERVICE INTERRUPTION

16.1 Should any work done by the "Contractor" cause a possible interruption, written permission must be obtained from "Department", before such work commences. The "Contractor" may not switch on or off any compressed air, steam, oxygen, vacuum supply or electrical supply without written permission from the "Department".

17. CONFIDENTIALITY

17.1 The "Contractor" and his employees shall regard all data, documentation and information

of the contract and related documentation as confidential.

17.2 Lost documentation/plans or related documentation shall immediately be reported in writing to the "Department".

17.3 The "Contractor" shall not put up any advertisements or billboard at the site without permission.

17.4 The "Contractor" shall not take photographs of the contract site or part thereof or any work process or part thereof, without written permission from the "Department", or have photographs taken, published or let it be published.

18. CONTRACT SITE AND PRESERVATION

18.1 Employees of the "Contractor" shall not be allowed entrance to the site unless a valid identity document, issued by "Department", is displayed. The mentioned documents shall only be valid for a limited period, where after it must be renewed.

19. COMPLETION OF WORK

19.1 The "Contractor" or his employees shall not leave the contract site before the "Department" is satisfied that the contract is completed according to the requirements and standards set out in the contract and that the working site is left in a satisfactory and additional safe condition.

20. LIQUOR, DRUGS, DANGEROUS WEAPONS AND FIREARMS

20.1 The "Contractor" shall ensure that no liquor, drugs, dangerous weapons or firearms be brought onto the premises.

21. SEARCHES

21.1 The "Contractor" and any person engaged in the contract work may at any time be searched by "Department" appointed security personnel and all packages, suitcases, etc. must be presented to the access control point for examination prior to them being brought onto the property or leaving the property.

22. GENERAL CONDITIONS

22.1 Notwithstanding anything to the contrary in this agreement, it is hereby specifically determined that the "Contractor-"

22.1.1 shall have acquainted himself and be conversant with the contents of all statutory provisions applicable to the health and safety of workers and other persons on the site including the execution of the work, and in particular the conditions contained in the Occupational Health and Safety Act, 1993 (Act 85/1993), and the regulations promulgated in terms thereof, and shall comply therewith meticulously and in all aspects and/or take care that it is complied with;

22.1.2 shall be obliged to immediately execute all instructions given to him by an

authorized representative of "Department" in order to ensure and uphold the implementation and enforcement of the provisions referred to in sub-paragraph 1, to the satisfaction of the said representative;

22.1.3 shall indemnify the "Department" against any or all liability which may be incurred by the "Department" as a result of the omission of the "Contractor", his employees, sub-contractors and/or representatives to comply with the provisions referred to in sub-paragraph 1, or to ensure that it shall be complied with;

22.1.4 shall undertake to pay upon demand any and/or all legal costs and other expenses which "Department" may have incurred as a consequence of any criminal charges or other proceedings pending against, or involving the "Department" as a result of the contravention or non-compliance by the "Contractor", his employees, sub-contractors and/or representative of any of the statutory provisions referred to in sub-paragraph 1.

22.1.5 Should the "Contractor" neglect to immediately execute any health and safety written orders issued to him, or to his employee in charge of the works, in terms of the stipulations of sub-paragraph 2, the "Department" shall be entitled to suspend the execution of the works and take the necessary steps to execute or have such order executed. Under these circumstances the contractor shall be obliged to pay "Department", upon demand, all costs and expenses incurred by "Department", in order to execute or have the said orders executed.

22.1.6 Should the abovementioned steps not establish a healthy and safe work environment the "Department" will be entitled to terminate the contract without incurring any further costs or claims from the contractor?

23. "CONTRACTOR" INDENTIFICATION BOARD

23.1 The "Contractor" shall provide on any work premises a temporary identification board containing at all worksites the following information:

Company name
On behalf of which division/department the work is being done
The contact number and name of the person representing the "Contractor"
The contact number and name of the person representing "Department"

24. ACKNOWLEDGEMENT

24.1 The "Contractor" hereby acknowledges that he has read and received a copy of the "Principal Contract" and agrees to be bound by and undertakes to observe all the terms and conditions of the "Principal Contract". This appointment is made in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993.

25. EXCEPTIONS AND OMISSIONS

26. REMARKS

THE CONTRACTOR

SIGNED AT ..... ON THIS ..... DAY OF .....

WITNESSES:

..... 1. .....

THE CONTRACTOR

2. .....

THE DEPARTMENT

SIGNED AT ..... ON THIS ..... DAY OF .....

WITNESSES:

..... 1. .....

THE DEPARTMENT

2. .....

INDEMNITY CERTIFICATE

Contractor : _____

Employer : Department of Agriculture, Land Reform and Rural Development

Contract :

_____

I/we _____Hereafter the "Contractor"

"Contractor" hereby indemnifies the Department against any claim of whatever sort which may arise directly or indirectly from the execution by me/us of the above-mentioned contract and which may be instituted against "Department", as well as of any loss or damage which the "Department" suffers or expenditure the "Department" incurs to prevent responsibility for such claim, loss or damage, whatever the cause of such claim may be or whatever loss or damage the "Department" suffers.

THUS done and signed at ..... on this ..... day of..... 200....

WITNESSES:

1. .....
.....

CONTRACTOR

2. .....
.....

DEPARTMENT

R 2
REVENUE STAMP

ACKNOWLEDGEMENT CERTIFICATE

I, in my capacity as.....

Duly authorized hereto.....representing

..... Contractors, acknowledge receipt
Of a copy of the Department's safety manual for contractors and the under mentioned person as my supervisor regarding all works and services which must be executed by the Contractor. The appointment is done in terms of the Occupational Health and Safety Act, 1993 (Act 85/1993).

SIGNED AT ..... ON ..... 200...

I, ... accept the abovementioned appointment, and declare that I am familiar with the contents of the Department Safety Manual for contractors.

CASUALTIES REGISTRATION NUMBER

_____

_____

_____

SIGNED AT ..... ON ..... 200....

SIGNATURE:

WITNESSES: 1. .....

2. .....

A copy of this certificate shall be submitted to the "Department" before any work commences.

R 2
REVENUE STAMP

C2.1 – PRICING INSTRUCTIONS

1. GENERAL

The pricing instructions describe the criteria and assumptions for which in the Contract it will be assumed the Tenderer has taken into account when developing his prices. The bills of quantities record the Contractor's rates for providing supplies, services, engineering and construction works in accordance with the Scope of Work.

The terms of payment and the provisions for price adjustment, if applicable, are established in the Contract Data. These items are not described in the Pricing Data.

The Tenderer's obligations in pricing the tender offer and the Employer's undertakings in the checking and correction of arithmetical errors are dealt with in the Standard Conditions of Tender contained in Annexure F of SANS 294, as amended in and read in conjunction with the Tender Data.

The Model Preambles for Trades 2008 as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained.

Supplementary preambles and/or specifications are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the Model Preambles.

The contractor's prices for all items throughout these bills of quantities shall take account of and include for all of the obligations, requirements and specifications given in the Model Preambles and in any supplementary preambles and/or specifications.

The Principal Building Agreement, Edition 6.1, March 2014, the Contract Data, the Standard and Particular Specifications and the Drawings shall be read in conjunction with the Bill of Quantities.

2. DOCUMENTS MUTUALLY EXPLANATORY

The documents forming the Contract are to be taken as mutually explanatory of one another. The bills of quantities forms an integral part of the Contract Documents and shall be read in conjunction with the Tender Data, Contract Data, Scope of Work, Site Information, General and Special Conditions of Contract, the Specifications and the Drawings.

3. DEFINITIONS

For the purpose of this bills of quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Scope of Work and Site Information.
Quantity	:	The number of units of work for each item.
Rate	:	The payment per unit of measurement at which the Contractor contracts to do the work.
Amount	:	The product of the quantity and the rate tendered for an item.
Sum	: which is of	An amount contracted for an item, the extent of described in the bills of quantities, the specifications or elsewhere but the quantity of work which is not measured in any units.

4. UNITS OF MEASUREMENT

The units of measurement indicated in the bills of quantities are metric units.

The following abbreviations are used in the bills of quantities:

mm	=	millimetre
m	=	metre
m^2	=	square metre
m^3	=	cubic metre
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	per cent
PC Sum	=	Prime Cost Sum
Prov Sum	=	Provisional Sum

5. NET MEASUREMENTS

Unless otherwise stated, items are measured nett in accordance with the drawings, and no allowance is made for off-cuts and waste.

6. QUANTITIES

The Bills of Quantities shall be measured and priced according to the method of measurement for the Standard system of measuring work 7th Edition (2015).

The Bills of Quantities are all provisional and thus will be re-measured on site before the finalisation of the Final Account.

These Bills of Quantities contain pages numbered consecutively as indicated in the Index. Before the contractor submits his tender he should check the number of pages, and if any are found to be missing or duplicated, or the figures or writing indistinct, or the tender documents contain any obvious errors, he should notify the quantity surveyor at once and have rectified as no liability whatsoever will be admitted by the quantity surveyors in respect of errors in a tender due to the foregoing.

On no account should these documents be used for placing orders for materials. The contractor may do so at his own risk but shall not be reimbursed for additional costs so incurred. Should any part of the drawings not be clearly understood by the contractor, he shall before constructing and/or ordering material, obtain clarification in writing from the principal agent.

Unless a separate rate for the supply and for the installation of any items is specifically called for, the supply and installation costs of any item shall be deemed to be fully included in the unit price. All Bills of Quantities are Provisional and therefore re-measurable.

7. CURRENCY

All rates and sums of money quoted in the bills of quantities shall be in Rand and whole cents. Fractions of a cent shall be discounted.

8. VALUE ADDED TAX

Value Added Tax shall be excluded from the rates and sums contracted for the various items of work included in the bills of quantities. VAT will be added as a single entry to the summary.

9. RATES AND PRICES

9.1 General

1) The Contractor must price each item in the bills of quantities in BLACK INK. Reproduced computer printouts of the bills of quantities will not be acceptable.

2) The rates and prices to be inserted in the bills of quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted, as these will be used as a basis for assessment of payment for additional work that may have to be carried out.

3) Where the Contractor is required to furnish detailed drawings and designs

or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items in the bills of quantities. Separate additional payments will not be made.

4) A price or rate is to be entered against each item in the bills of quantities, whether the quantities are stated or not. An item against which a NIL price is entered will be considered to be covered by the other prices or rates in the bills. The Contractor will not be paid for items against which no rate or lump sum has been entered in the bills of quantities.

5) Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

6) Should the Contractor indicate against any item that compensation for such item is included in another item, the rate for the item included in another item shall be deemed nil.

7) A submission may be regarded as non-responsive if any rates or lump sums in the bills of quantities are, in the opinion of the Employer, unreasonable or out of proportion.

9.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

9.3 Arithmetic

Excepting where Sum Amounts are required or where Provisional Sums have been indicated, the Contractor shall enter an applicable rate in the Rate Column of the bills of quantities for each bill item. He shall also enter an appropriate sum in the Amount column for each bill item, by determining in the applicable line item the product of the Quantity and the Unit Rate.

10. VARIATION IN TEXT

No alteration, erasure or addition is to be made in the text of the bills of quantities. Should any alteration, erasure or addition be made, it will not be recognised; the original wording of the bills of quantities will be adhered to.

C2.2 BILL OF QUANTITIES

The complete priced Bill of Quantities must be submitted with the tender offer.

PRICING INSTRUCTIONS: C2.3

BILL NO 1:	PRELIMINARIES	C2.7
BILL NO 2:	ALTERATIONS.....	C2.29
BILL NO 3:	MASONRY	C2.39
BILL NO 4:	ROOF COVERINGS	C2.40
BILL NO 5:	CARPENTRY AND JOINERY	C2.41
BILL NO 6:	CEILINGS, PARTITIONS AND ACCESS FLOORING	C2.42
BILL NO 7:	IRONMONGERY.....	C2.44
BILL NO 8:	STRUCTURAL STEELWORK.....	C2.47
BILL NO 9:	METALWORK	C2.49
BILL NO 10:	PLASTERING.....	C2.52
BILL NO 11:	TILING	C2.53
BILL NO 12:	PLUMBING AND DRAINAGE (PROVISIONAL).....	C2.55
BILL NO 13:	GLAZING.....	C2.66
BILL NO 14:	PAINTWORK	C2.68
BILL NO 15:	PROVISIONAL SUMS	C2.73

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 **BILL NO. 1 PRELIMINARIES** **PRELIMINARIES** **BUILDING AGREEMENT AND PRELIMINARIES** The JBCC Principal Building Agreement (March 2014 Edition 6.1) prepared by the Joint Building Contracts Committee shall be the applicable building agreement, amended as hereinafter described The JBCC Principal Building Agreement contract data form an integral part of this agreement The Preliminaries revision 1 (February 2016) published by the Association of South African Quantity Surveyors for use with the JBCC Principal Building Agreement Edition 6.1 shall be deemed to be incorporated in these bills of quantities, amended as hereinafter described The contractor is deemed to have referred to the above mentioned documents for the full intent and meaning of each clause The clauses in the above mentioned documents are hereinafter referred to by clause number and heading only Where any item is not relevant to this agreement such item is marked N/A signifying "not applicable" "Note : The amendments contained herein or in the single referenced Annexure (as per the signed Contract Data) constitute the only amendments to the standard JBCC Agreement that will apply. No other amendments shall be of any force or effect" Where standard clauses or alternatives are not entirely applicable to this agreement such amendments, modifications, corrections or supplements as will apply are given under each relevant clause heading and such amendments, modifications, corrections or supplements shall take precedence notwithstanding anything to the contrary contained in the above mentioned documents				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 **PREAMBLES FOR TRADES** The Model Preambles for Trades 2008 as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained Supplementary preambles and/or specifications are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the Model Preambles The contractor's prices for all items throughout these bills of quantities shall take account of and include for all of the obligations, requirements and specifications given in the Model Preambles and in any supplementary preambles and/or specifications **STRUCTURE OF THIS PRELIMINARIES BILL** Section A : A recital of the headings of the individual clauses of the aforementioned JBCC Principal Building Agreement Section B : A recital of the headings of the individual clauses of the aforementioned Preliminaries document Section C : Any special clauses to meet the particular circumstances of the project **PRICING OF PRELIMINARIES** Should the contractor select Option A in the contract data for the adjustment of preliminaries, the amounts entered against the relevant items in these preliminaries are to be divided into one or more of the three categories provided namely fixed (F), value related (V) and time related (T)				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 **SECTION A: PRINCIPAL BUILDING AGREEMENT** **Interpretation (A1-A7)**				
1		Clause 1.0 - Definitions and interpretation **Definition of agreement** The definition of agreement is replaced with the following definition : "AGREEMENT : The JBCC Principal Building Agreement, the completed JBCC PBA contract data, the contract drawings, the priced documents and any other documents reduced to writing and signed by the parties" **Pricing of bills of quantities** The contractor is to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise stated, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting, labour, setting, fitting and fixing in position, cutting and waste (except where to be measured in accordance with the standard system of measurement), patterns, models and templates, plant, temporary works, returning of packaging, duties, taxes (other than Value Added Tax), imposts, establishment charges, overheads, profit and all other obligations arising out of this agreement. Value Added Tax (VAT) is to be separately stated on the summary page of these bills of quantities Items left unpriced will be deemed to be covered in prices against other items throughout these bills of quantities and no claim for any extras arising out of the contractor's omission to price any item will be entertained Prices for all construction equipment, temporary works, services and other items shall include for the supply, maintenance, operating cost and subsequent removal and making good as necessary				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 **Abbreviated descriptions** The items in these bills of quantities utilise abbreviated descriptions. It is the intention that the abbreviated descriptions be fully described when read with the applicable measuring system and the relevant preambles and/or specifications. However, should the full intent and meaning of any description not be clear, the contractor shall, before submission of his tender, call for a written directive from the principal agent, failing which it shall be assumed that the contractor has allowed in his pricing for materials and workmanship in terms of international best practice **Legal status of contractor** If the contractor constitutes a joint venture, consortium or other unincorporated grouping of two or more persons then: 1. These persons are deemed to be jointly and severally liable to the employer for the performance of this agreement 2. These persons shall notify the employer of their leader who has authority to bind the contractor and each of these persons 3. The contractor shall not alter its composition or legal status without the prior written consent of the employer Errata by JBCC Omit from definition of construction period the words : "excluding annual holiday periods" Omit from definition of preliminaries the word : "priced" F:..... V:..... T:.....	Item	1		
2		Clause 2.0 - Law, regulations and notices				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 **Health and safety** Without limiting the generality of the provisions of clause 2.0, the contractor's attention is drawn to the provisions of Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993. It is specifically stated that the employer shall prepare a documented health and safety specification for the works (refer to Annexure C5 for a copy of the relevant specification) and that the employer shall ensure that the contractor has made provision for the cost of health and safety measures during the execution of the works. The contractor shall price opposite this item for compliance with the act and the regulations and the provisions of the aforementioned health and safety specification [2.1]	Item	1		
		The contractor shall: 1. Comply with the health and safety specification for the works 2. Prepare and agree with the health and safety consultant the health and safety plan for the works 3. Co-operate with the health and safety consultant in all respects				
		4. Manage the compliance of all subcontractors with the regulations and with the health and safety plan and specification5. Conform to the conditions contained in the employer's health and safety specification				
		F:..... V:..... T:.....				
3		Clause 3.0 - Offer and acceptance F:..... V:..... T:.....				
4		Clause 4.0 - Assignment and cession F:..... V:..... T:.....				
5		Clause 5.0 - Contract documents				
		Value Added Tax Provision is made in the summary page of these bills of quantities for the inclusion of Value Added Tax (VAT)				
		Contract drawings Refer to Annexure C5.3 for a list of the contract drawings [5.1]				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
		Add the following to the clause: The original signed set of contract documents is to be held by the Employer. Priced document as specification Clause 5.3 is deemed to be deleted				
		The principal agent shall decide which portion of the priced document may be used as a specification of materials and goods or methods, if any				
		Electronic issue of drawings All drawings for this project will be issued electronically and the contractor shall be deemed to have received such drawings on the date that such drawings have been dispatched electronically [5.5]				
		Precedence Clause 5.6 is deemed to be deleted. The provisions of this Bill No. 1 (Preliminaries) shall take precedence over any other documents which constitute this agreement [5.6]				
		F:..... V:..... T:.....				
6		Clause 6.0 - Employer's agents				
		Delegated authority The authority of the principal agent to issue contract instructions and perform duties for specific aspects of the works is delegated to agents as follows [6.2]: This delegated authority will be defined in writing when the site is handed over to the contractor.				
		F:..... V:..... T:.....				
7		Clause 7.0 - Design responsibility F:..... V:..... T:.....				
		Insurance and security (A8-A11)				
8		Clause 8.0 - Works risk F:..... V:..... T:.....				
9		Clause 9.0 - Indemnities F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
10		Clause 10.0 - InsurancesAdd the following to the clause:The Contractor will affect Contract Works Insurance to be limited to, the Tender amount including VAT plus 25%, and Public Liability to be limited to R20 000 000 under the contract. The Employer will not provide for any insurance as it will be provided for by the Contractor.F:..... V:..... T:.....				
11		Clause 11.0 - SecurityDelete clause 11.1.2 and the option "or"Amend clause: A Guarantee for Construction - (fixed) set at five per cent (10%) of the contract sum [CD] and a payment reduction of 10% of the value of each payment certificate up to a maximum of five per cent (5%) of the contract sum [25.3.3]. The contractor shall keep such security valid and enforceable until the only or last certificate of practical completion has been issued Errata by JBCC Clause 11.5 Replace "ten (10)" with "five (5)" F:..... V:..... T:.....				
12		**Execution (A12 - A17)** Clause 12.0 - Duties of the parties **Provisions of clauses 12.1.2 to 12.1.6 and 12.2.18** Refer to the contract data, the Preliminaries document and "Section B : Preliminaries" of this Bill No. 1 with reference to the provisions of clauses 12.1.2 to 12.1.6 and 12.2.18 of the JBCC Principal Building Agreement Office accommodation The contractor shall provide, maintain and remove on practical completion office accommodation with suitable tables and chairs for meetings to be held on the site. Such offices shall be kept clean and fit for use at all times [12.2.18]				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
		Notice board The contractor shall erect in a position approved by the principal agent, maintain and remove on practical completion a notice board recommended by the South African Institute of Architects and as approved by the principal agent listing the names and logos of the employer, the contractor, and the professional consultants. No subcontractor or supplier notice boards may be erected unless permission is granted by the principal agent for such notice boards to be erected [12.2.18]				
		Statutory and other notices The contractor shall submit and/or comply with all statutory and other notices that may be required by any local or other authority in order not to cause any delay to the commencement of the works by the contractor. The contractor shall pay all deposits or fees in this regard [12.1.6]				
		Errata by JBCC Clause 12.2.17 Omit the words "[CD] within ten (10) working days"				
		F:..... V:..... T:.....				
13		Clause 13.0 - Setting out F:..... V:..... T:.....				
14		Clause 14.0 - Nominated subcontractors Errata by JBCC Clause 14.1.4 Reference should read "[17.1.14]" Clause 14.6 Reference should read "[17.1.15; 27.1.8]" Clause 14.7.2 Reference should read "[27.1.8]" Clause 14.7.3 Reference should read "[27.2.8]"				
		F:..... V:..... T:.....				
15		Clause 15.0 - Selected subcontractors Errata by JBCC Clause 15.2 Reference should read "[17.1.14]" Clause 15.7.2 Reference should read "[27.1.8]" Clause 15.7.3 Reference should read "[27.2.8]"				
		F:..... V:..... T:.....				
16		Clause 16.0 - Direct contractors Attendance on direct contractors In respect of direct contractors the contractor shall:				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 1. Designate an area for the direct contractor to establish a temporary office and workshop and storage of equipment and materials 2. Allow the use of personnel welfare facilities, where provided 3. Provide water, lighting and single phase electric power to a position within 50m of the place where the direct contract work is to be carried out, other than fuel or power for commissioning of any installation 4. Permit the direct contractor to use erected scaffolding, hoisting facilities, etc provided by the contractor, in common with others having the like right, while it remains erected on the site [16.1] Errata by JBCC Clause 16.1.3 Reference should read "[26.5]" F:..... V:..... T:.....				
17		Clause 17.0 - Contract instructions Site instructions Instructions issued on site are to be recorded in a site instruction book which is to be supplied and maintained on site by the contractor Errata by JBCC Clause 17.1.3 Reference should read "[13.2.4]" F:..... V:..... T:.....				
18		**Completion (A18 - A24)** Clause 18.0 - Interim completion F:..... V:..... T:.....				
19		Clause 19.0 - Practical completion F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
20		Clause 20.0 - Sectional completion Errata by JBCC Clause 20.2.2 Reference should read "[21.6.2]" F:..... V:..... T:.....				
21		Clause 21.0 - Defects liability period and final completion Change the defects liability period from ninety (90) calendar days to three hundred and sixty-five (365) calendar days. Errata by JBCC Clause 21.1 Delete the word "final" in the second last line Reference should read "[21.6.1]" Clause 21.9 Reference should read "[21.4 ; 21.6.1]" F:..... V:..... T:.....				
22		Clause 22.0 - Latent defects liability period F:..... V:..... T:.....				
23		Clause 23.0 - Revision of date for practical completion Substitution of materials and goods The removal or substitution of any materials and goods which do not conform to the specification or the contract drawings shall not constitute grounds for the extension of the construction period nor for the adjustment of the contract value [17.1.8, 23.1 & 2] Errata by JBCC Clause 23.2 Reference should read "[26.7]" Clause 23.2.1 Reference should read "[12.1.7]" F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
24		Clause 24.0 - Penalty for late or non-completion Add the following to the clause: Add the following to the clause: It is therefore the contractor's responsibility to ensure that Practical Completion is achieved by the due date, failing which penalties at a rate of the lesser of R5 000 or 1/20 of 1% of the offered total of prices excluding VAT per calendar day, will be charged until such time that works are completed in full. F:..... V:..... T:.....				
		Payment (A25 - A27)				
25		Clause 25.0 - Payment Materials and goods prematurely on site Materials and goods brought onto the site prematurely shall not be authorised for payment [25.3.2] Materials and goods stored off site Materials and goods stored off site shall not be authorised for payment [25.3.2] Prices submitted Where prices are submitted by the contractor or subcontractor during the progress of the works in respect of contract instructions or in regard to a claim under the terms of this agreement and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the certificate of final completion, it shall be in writing Errata by JBCC Clause 25.2 The word : "final" in bold in the second line Clause 25.10.3 Reference should read "[25.13 ; 26.10]" New clause 25.12.4 Add the words : "Terminate the agreement [29.14.7] where the listed options [25.12.1-3] have failed" F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
26		Clause 26.0 - Adjustment of the contract value and final account Add the following to the existing clause Any Contract Variations with a financial implication must be approved by the Department in line with the Departmental Approved Supply Chain Management Delegation of Authority. Contingencies: Contingencies are under the sole control of the Department and upon approval in line with the Departmental Approved Supply Chain Management Delegation of Authority. Add the following to the existing clause The contractor shall review, assess and adjudicate any claims received by him from any subcontractor and thereafter submit same to the principal agent with a recommendation in order to assist the principal agent in adjudicating the claim [26.6] Errata by JBCC Clause 26.4.2 Omit the entire clause and renumber thereafter New clause 26.4.3 "Other proven or unavoidable costs" F:..... V:..... T:.....				
27		Clause 27.0 - Recovery of expense and/or loss F:..... V:..... T:.....				
		Suspension and termination (A28 - A29)				
28		Clause 28.0 - Suspension by the contractor Errata by JBCC New clause 28.1.5 and renumber thereafter "Or where an agent has failed to act in terms of this agreement [6.4] Clause 28.2 Replace the word "defect" with "default" in the first line F:..... V:..... T:.....				
29		Clause 29.0 - Termination Errata by JBCCClause 29.1.2 Delete the words : "within the period stated [CD]" Clause 29.14.1 Change as follows : "Provide or maintain a guarantee for payment.....[11.4 - 5]"Clause 29.14.2 Reference should read "[12.1.7]"New clause 29.14.8 "Or where an agent has failed to act in terms of this agreement [6.4]"				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 F:..... V:..... T:.....				
		Dispute resolution (A30)				
30		Clause 30.0 - Dispute resolution F:..... V:..... T:.....				
31		Agreement The second sentence of the introduction where the parties sign the agreement, namely "Any provision in this agreement..... acceptance by such subcontractor at any time." is deemed to be deleted				
		The required information of the parties and the amount of the contract sum shall be inserted in the agreement for signature of the agreement by the parties F:..... V:..... T:.....				
32		Contract data Payment of preliminaries Where Option B is applicable and the initial construction period is extended the monthly charge shall be recalculated on the same basis as was initially applied but taking into account the revised construction period and the amounts already paid to the contractor [CD26.0]				
		Adjustment of preliminaries Where the adjustment of preliminaries is in terms of Option A, the construction period and the initial construction period shall be calculated in working days [CD 26.0]				
		Where the adjustment of preliminaries is in terms of Option A and sectional completion is required, the contractor shall provide the principal agent with the division of the categorised amounts into sections. Should the contractor fail to provide such information within the period stipulated, the categorised amounts shall be prorated to the value of each section [CD 26.0]				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
		Where the adjustment of preliminaries is required in terms of Option B and sectional completion is required, the contractor shall provide the principal agent with details of the resources required for each section and those that are common to sections. Should the contractor fail to provide such information within the period stipulated, Option A shall apply [CD 26.0]				
		Tenderer's selection				
		Before submission of his tender the contractor is to complete the tenderer's selection in the contract data				
		Note 4 on page 10 of the contract data				
		Note 4 on page 10 of the contract data which relates to any benefit or right in favour of any subcontractor shall be deemed to be deleted				
		F:..... V:..... T:.....				
		SECTION B: PRELIMINARIES Interpretation (B1)				
33		Clause 1.1 - Definitions F:..... V:..... T:.....				
34		Clause 1.2 - Interpretation F:..... V:..... T:.....				
		Documents (B2)				
35		Clause 2.1 - Checking of documents F:..... V:..... T:.....				
36		Clause 2.2 - Provisional bills of quantities				
		F:..... V:..... T:.....				
37		Clause 2.3 - Availability of construction information F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
38		Clause 2.4 - Ordering of materials and goods F:..... V:..... T:.....				
		Previous work and adjoining properties (B3)				
39		Clause 3.1 - Previous work - dimensional accuracy F:..... V:..... T:.....				
40		Clause 3.2 - Previous work - defects F:..... V:..... T:.....				
41		Clause 3.3 - Inspection of adjoining properties F:..... V:..... T:.....				
		The site (B4)				
42		Clause 4.1 - Defined works area F:..... V:..... T:.....				
43		Clause 4.2 - Handover of site in stages F:..... V:..... T:.....				
44		Clause 4.3 - Enclosure of the works F:..... V:..... T:.....				
45		Clause 4.4 - Geotechnical investigation F:..... V:..... T:.....				
46		Clause 4.5 - Encroachments F:..... V:..... T:.....				
47		Clause 4.6 - Existing premises occupied F:..... V:..... T:.....				
48		Clause 4.7 - Services - known F:..... V:..... T:.....				
49		Clause 4.8 - Protection of trees and/or relevant natural features F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
		Management of contract (B5)				
50		Clause 5.1 - Management of the works F:..... V:..... T:.....				
51		Clause 5.2 - Progress meetings F:..... V:..... T:.....				
52		Clause 5.3 - Technical meetings F:..... V:..... T:.....				
		Samples, shop drawings and manufacturer's instructions (B6)				
53		Clause 6.1 - Samples of materials F:..... V:..... T:.....				
54		Clause 6.2 - Workmanship samples F:..... V:..... T:.....				
55		Clause 6.3 - Shop drawings F:..... V:..... T:.....				
56		Clause 6.4 - Compliance with manufacturer's instructions F:..... V:..... T:.....				
		Deposits and fees (B7)				
57		Clause 7.1 - Deposits and fees F:..... V:..... T:.....				
		Temporary services (B8)				
58		Clause 8.1 - Water F:..... V:..... T:.....	Item	1		
59		Clause 8.2 - Electricity F:..... V:..... T:.....				
60		Clause 8.3 - Ablution and welfare facilities F:..... V:..... T:.....				
61		Clause 8.4 - Communication facilities F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
		Prime cost amounts (B9)				
62		Clause 9.1 - Responsibility for prime cost amounts F:..... V:..... T:.....				
		Attendance on subcontractors (B10)				
63		Clause 10.1 - General attendance F:..... V:..... T:.....				
64		Clause 10.2 - Special attendance F:..... V:..... T:.....				
		General (B11)				
65		Clause 11.1 - Protection of the works F:..... V:..... T:.....				
66		Clause 11.2 - Protection/isolation of existing/sectionally occupied works F:..... V:..... T:.....				
67		Clause 11.3 - Security of the works F:..... V:..... T:.....				
68		Clause 11.4 - Notice before covering work F:..... V:..... T:.....				
69		Clause 11.5 - Disturbance F:..... V:..... T:.....				
		Clause 11.6 - Environmental disturbanceNote: The contractor shall refer to Part C5: Annexure with regard to the environmental management plan done in conjunction with the H&S plan. F:..... V:..... T:.....				
70		Clause 11.7 - Works cleaning and clearing F:..... V:..... T:.....				
71		Clause 11.8 - Vermin F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
72		Clause 11.9 - Overhand work F:..... V:..... T:.....				
73		Clause 11.10 - Tenant installations by direct contractors F:..... V:..... T:.....				
74		Clause 11.11 - Advertising F:..... V:..... T:.....				
75		**Preliminaries schedule (B12)** Information for completion of the preliminaries schedule Information necessary for elections and completion of those clauses contained in the preliminaries schedule which are necessary for tender purposes is given hereunder. Where no information is given it shall mean that no specific requirements are expected or that the clause is not relevant to this specific contract 12.1 - Provisional bills of quantities [2.2] The quantities are provisional - Yes 12.2 - Existing premises occupied [4.6] Premises will be vacant once site is handed over [PBA 12.1.2] 12.3 - Services - known [4.7] The contractor should take reasonable steps to protect existing services [PBA 12.1.3] 12.4 - Water [8.1] Option A (by contractor) - Yes Option B (by employer - free of charge) - No Option C (by employer - metered) - No 12.5 - Electricity [8.2] Option A (by contractor) - Yes Option B (by employer - free of charge) - No Option C (by employer - metered) - No				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 12.6 - Ablution and welfare facilities [8.3] Option A (by contractor) - Yes Option B (by employer) - No 12.7 - Protection/isolation of existing/sectionally occupied works [11.2] Protection/isolation is required - Yes 12.8 - Disturbance [11.5] All work is to be carried out in such a manner as to cause no unacceptable or unreasonable dust, noise, vibrations, nuisance, inconvenience, annoyance and the like to the public, others, other properties and traffic in so far as they exceed the permissible limitations set by government legislation or by the local authority. Any delays, stoppages and the like arising from or in order to comply with the above will not constitute grounds for an adjustment to the construction period or contract value whatsoever 12.9 - Environmental disturbance [11.6] Controlling all forms of pollution The contractor shall be responsible for and take all precautions in controlling by whatever means necessary all forms of pollution emanating from the site during the construction period due inter alia to noise, artificial light, wind-blown sand, dust, deposits of mud, etc The contractor is to ensure that all roads which border the site and is used by the contractor during the execution of the works are kept clean and free of any dirt or debris caused by the execution of the works Environmental management plan The employer has prepared an environmental management plan (EMP) (refer to Annexure C5 for a copy of the relevant plan). The contractor shall price opposite this item for compliance with all the requirements of such EMP F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1 **SECTION C: SPECIFIC PRELIMINARIES**				
76		Warranties for materials and workmanship Where warranties for materials and/or workmanship are called for, the contractor shall obtain a written warranty, addressed to the employer, from the entity supplying the materials and/or doing the work and shall deliver same to the principal agent on the final completion of the contract The warranty shall state that workmanship, materials and installation are warranted for a specific period from the date of practical completion and that any defects that may arise during the specified period shall be made good at the expense of the entity supplying the materials and/or doing the work, upon written notice to do so The warranty will not be enforced if the work is damaged by defects in the execution of the works, in which case the responsibility for replacement shall rest entirely with the contractor F:..... V:..... T:.....				
77		Overtime Should overtime be required to be worked for any reason whatsoever, the cost of such overtime is to be borne by the contractor unless the principal agent has specifically authorised, prior to execution thereof, that costs for such overtime are to be borne by the employer F:..... V:..... T:.....				
78		Co-operation of the contractor for cost management It is specifically agreed that the contractor accepts the obligation of assisting the principal agent in implementing proper cost management. The contractor will be advised by the principal agent of all cost management procedures which will be implemented to ensure that the contract value does not exceed the budget F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
79		Overloading The contractor shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the works or temporary works eg scaffolding, etc. The contractor shall submit details of his proposed loading, storage, plant erection, etc to the principal agent for approval prior to proceeding with such loading, storing or erecting and shall comply with and pay for the principal agent's requirements in connection with the provision of temporary support work, etc. Any damage caused to the works by overloading shall be made good by the contractor at his sole expense F:..... V:..... T:.....				
80		Propping of floors below The contractor is advised that propping of floors below may be required if he wishes to use any areas of completed suspended reinforced concrete slabs for vehicle access, storage of materials and goods and location of plant, scaffolding, etc. The location of these areas and any necessary propping shall be approved by the principal agent and the cost thereof shall be borne by the contractor F:..... V:..... T:.....				
81		Broad based black economic empowerment (BBBEE) Tenders submitted will be evaluated taking into account their empowerment rating The employer will be monitoring the broad based black economic empowerment (BBBEE) status of the contractor throughout the execution of the works				
		The contractor is to submit to the principal agent on an annual basis a schedule of spend, split into vendors engaged as subcontractors and suppliers indicating their BBBEE rating including proof of the said rating F:..... V:..... T:.....				

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 1				
82		Confidentiality The contractor undertakes to maintain in confidence any and all information regarding this project and shall obtain appropriate similar undertakings from all subcontractors and suppliers. Such information shall not be used in any way except in connection with the execution of the works No information regarding this project shall be published or disclosed without the prior written consent of the employer F:..... V:..... T:.....				
83		Media releases All rights of publication of articles in the media, together with any advertising relating thereto or in any way connected with this project, shall vest with the employer The contractor together with his subcontractors shall not, without the prior written consent of the employer, cause any statement or advertisement connected with this project to be printed, screened or aired by the media F:..... V:..... T:.....				
		SUMMARY OF CATEGORIES				
		Category : Fixed R..... Category : Value R..... Category : Time R.....				
		Carried to Final Summary				R -

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 1				
		EARTHWORKS				
		SUPPLEMENTARY PREAMBLES				
		Nature of ground:				
		The nature of the ground is assumed to be gravel,				
		A soils investigation has been carried out on site by the				
		Carting away of excavated material:				
		Descriptions of carting away of excavated material shall				
		Testing				
		Prices for filling and compaction should allow for all				
		SITE CLEARANCE				
		Site clearance				
1		Digging up and removing rubbish, debris, vegetation,	m^2	1 650		
		BULK EXCAVATION				
2		Remove 150mm layer of Top Soil and stock on site	m^3	248		
		Extra over all excavations for carting away:				
9		Surplus material from excavations and/or stock piles on	m^3	20		
		FILLING ETC				
		Selected earth filling obtained from the excavations				
11		Backfilling to trenches, holes, etc	m^3	4		
		Earth filling G6 supplied by the contractor in 3 150mm				
12		Under floor, wash bay and entrance ramp	m^3	48		
		Road wearing course	m^3	124		
		Filling of coarse river sand supplied by the contractor,				
13		50mm Under floor & Wash bay	m^3	83		
		Compaction of ground surfaces				

14		Compaction of ground surface under aprons & V-channel	m^2	1 900		
		WEED KILLERS, INSECTICIDES, ETC				
		Soil insecticide in accordance with SANS 5859				
15		Under floors etc. including forming and poisoning	m^2	122		
		SUNDRIES				
		Sundries				
16		Allow for keeping excavations free of water and mud by	Item	1		
		TESTS				
		Additional density tests as required by the Engineer over				
17		Allow for the provision of Modified AASHTO density tests	No.	16		

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 2				
		CONCRETE, FORMWORK AND REINFORCEMENT				
		SUPPLEMENTARY PREAMBLES				
		FORMWORK TO BASES, FOOTINGS & FLOORS				
		Description of formwork shall be deemed to include use				
		The vertical strutting shall be carried down to such				
		Formworks to soffits of solid etc shall be deemed to be				
		Formwork to sides of bases, pile caps, etc will only be				
		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED				
		15MPa/19mm Concrete in:				
1		75mm Blinding under footings and bases	m^3	0	-	-
		REINFORCED CONCRETE CAST AGAINST EXCAVATED 30 MPa/19mm Concrete in:				
2		Pad footings	m^3	0	-	-
3		Strip footings	m^3	0	-	-
4		Aprons cast in panels to slopes	m^3	18		
5		V-channel cast on waterproofing to slopes	m^3	14		
		35 MPa/19mm Concrete in:				
6		Surface beds cast in panels	m^3	0	-	-
7		Wash Bay floor cast in panels on waterproofing to slopes	m^3	4		
8		In Ramps to slope	m^3	25		
		REINFORCED CONCRETE CAST IN/ON FORMWORK				
		30 MPa/19mm Concrete:				
9		Stub columns	m^3	0	-	-
10		Sump bases	m^3	0	-	-
		TEST BLOCKS				

11		Making and testing 3 off 150x150x150mm concrete	No.	5		
		MOVEMENT JOINTS, ETC				
		Isolation joints with 10mm jointex between concrete and				
12		10mm Joints not exceeding 300mm high along edges of	m	118		
		Saw cut joints as per drawings				
13		4 x 30mm Saw cuts in top of concrete	m	148		
		CONCRETE SUNDRIES				
		Finishing top surfaces of concrete smooth with power				
14		Surface bed	m^2	0	-	-
		Finishing top surfaces of concrete smooth with a steel				
15		Aprons & ramps to slopes	m^2	297		
		SMOOTH FORMWORK (DEGREE OF ACCURACY II)				
		Smooth formwork to sides				
16		Stub columns	m^2	0	-	-
		Smooth formwork to sides				
17		Edges, risers, ends and reveals not exceeding 300mm	m	281		
		Boxing in smooth formwork to form				
18		25 x 25mm Vertical chamfers at corners of stub columns	m	119		
		REINFORCEMENT				
		High tensile steel reinforcement to structural concrete				
19		All Diameter bars	Ton.	0	-	-
		Fabric reinforcement				
20		Type 395 fabric reinforcement in concrete wash bay floor	m^2	0	-	-
		Carried to Summary				**R** -

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 3				
		MASONRY				
		SUPPLEMENTARY PREAMBLES				
		BRICKWORK				
		Sizes in descriptions				
		Where sizes in descriptions are given in brick units, "one				
		Face bricks				
		Bricks shall be ordered timeously to obtain uniformity in				
		Pointing				
		Descriptions of recessed pointing to fair face brickwork				
		FACE BRICKWORK				
		FOUNDATIONS				
		Brickwork of semi-faced bricks (14 MPa nominal				
1		220mm brick walls	m^2	75		
		SUPERSTRUCTURE				
		Brickwork of semi-faced bricks in class II mortar				
3		220mm brick wall	m^2	93		
		Brick-on-edge header course copings, sills, etc of face				
3		220mm Wide coping on top of walls	m	91		
		BRICKWORK SUNDRIES				
		Brickwork reinforcement				
4		150mm Wide reinforcement built in horizontally	m	1 188		
		Galvanised hoop iron cramps, ties, etc				
5		35x1.2mm Wall tie 550mm long with one end fixed to	No.	28		
		Prestressed fabricated lintels				
6		230 x 75mm Lintels in lengths not exceeding 3m	No.	3		

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 4				
		WATERPROOFING				
		PREAMBLES				
		For preambles see "Model Preambles for Trades"				
		DAMP PROOFING				
		One layer 250 micron polyethylene waterproofing (DPC):				
1		On compacted earth under concrete wash bay floor and	m^2	114		
		One layer 375 micron embossed "Gunplas Brikgrip"				
2		In walls	m^2	21		
		JOINT SEALANTS ETC				
		ProStruct Vulkem 116 Polyurethane joint				
3		10 x 12 mm In isolation joints	m	118		
4		5 x 12mm Internal saw cut joints	m	568		
		Carried to Summary				R -

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 5 **ROOF COVERINGS, ETC**				
		SHEET METAL FLASHINGS, LININGS, COPINGS, ETC **PREAMBLES**				
		For preambles see "Model Preambles for Trades"				
		SUPPLEMENTARY PREAMBLES				
		Tenderers are advised to study the Construction Works:				
		Roof sheeting installation certificate:				
		Written confirmation is to be submitted from the roof				
		MILD STEEL PROFILED ROOF SHEETING				
		0.6mm thick IBR 686 with galvanized Z275 finish on both				
1		Roof covering with pitch not exceeding 15 degrees	m^2	1 086		
2		Side gladding to steel girts	m^2	484		
3		Extra over item 1 for 450mm radius bullnose ends on	m	101		
		0.6mm thick galvanized Z275 finish on both sides pierced				
4		231x231 x 462mm girth ridge Flashing	m	51		
5		686mm long IBR broad flute closure	m	101		
6		231x231 x 462mm girth barge flashing	m	43		
7		231x231 x 462mm girth external corner flashing	m	36		
8		60x50x20x24mm drip flashing	m	182		
9		Extra over item 6 for 450mm radius bend	m	3		
		Roof and Wall Insulation:				
10		"SA Fibreglass - Sisalation 420", or of equal approved	m^2	744		
		Roof ventilation:				
11		300mm Diameter galvanized steel (WH-01) "Whirlybird"	No.	14		
		Carried to Summary				R -

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ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 6				
		JOINERY FITTINGS				
		SUPPLEMENTARY PREAMBLES				
		FITTINGS GENERAL				
		Where fittings have been measured as complete units i.e.				
		Unless specifically stated, or where no finish is given,				
		DRAWINGS				
		The references given in the descriptions are to the				
		DOORS TO FITTINGS				
		Sizes of doors and drawers are approximate. Correct				
		DOORS				
		Durowin Transformer room units with louvred unit vent				
1		(D-01) 914 x 2032mm Durowin Transformer door with	No.	2		
Carried to Summary						R -

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 7				
		IRONMONGERY				
		PREAMBLES				
		For preambles see "Model Preambles for Trades"				
		IRONMONGERY FIXED TO DOORS, ETC.				
		HANDLES, ETC.				
		Manufactured by "Dortello" lever furniture				
1		Dortello lock key insert with opal satin chrome handles	No.	2		
		LOCKS				
		"Union" or similarly approved				
2		3 Lever Upright Lock (Code 2252-76SS)	No.	2		
		Carried to Summary				

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	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 8				
	1200	**STRUCTURAL STEEL**				
		NOTES:				
		Tenders are advised to study the "Construction Works:				
		SUPPLEMENTARY PREAMBLES				
		General:				
		All structural steelwork is to be carried out in accordance with				
		Descriptions of bolts shall be deemed to include nuts and				
		Descriptions of expansion anchors and bolts and chemical				
		Welds:				
		Welds shall be done in a manner that will eliminate warping of				
		Approval by the engineer:				
		It is a requirement that a full set of shop drawings be submitted				
		Any details of connections not provided by the engineer must be				
		And deviations from details provided by the engineer must be				
		Corrosion protection:				
		All structural steelwork is to be treated with red oxide.				
		STEEL COLUMNS AND BEAMS				
		Welded sections in single lengths with flat bearer and connection				
1		458x102x25 x 25.1 kg/m Cellular I-sections in columns, beams	t	9.1		
2		458x165x40 x 40.3 kg/m Cellular I-sections in columns	t	2.2		
3		254x146x31 x 31.1 kg/m I-section in columns and beams	t	1.3		
4		50x50x3.0 x 2.37 kg/m Equal legged angle in sag bars	t	0.9		
5		60x60x5.0 x 4.57 kg/m Equal legged angle in knee braces	t	0.8		
6		76.2x3.0 x 5.42 kg/m Circular hollow section in frame struts	t	0.4		
7		114.3x3.0 x 8.23 kg/m Circular hollow section in ties and bracing	t	0.7		
8		127.0x3.0 x 9.17 kg/m Circular hollow section in bracing	t	0.1		
9		139.7x3.0 x 10.1 kg/m Circular hollow section in bracing	t	0.3		
10		152.4x3.0 x 11.1 kg/m Circular hollow section in bracing	t	0.1		
11		175x75x20x2.5 x kg/m Cold formed lipped channel C-section in	t	8.5		
12		Grade 350WA plate: 3mm - 25mm in connections including holes	t	3.7		
		Bolts, etc				
13		M16 Grade 4,8 Bolts	t	0.3		
14		M16 Grade 4.8 Holding Down Bolts: 500mm long with 50x50x8.0	t	0.6		
		Grout				
15		25 mm Thick non-shrink grout	m^2	2.6		
		Carried to Summary				R -

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ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 9 **METALWORK**				
		SUPPLEMENTARY PREAMBLES				
		DESCRIPTIONS				
		Descriptions of bolts shall be deemed to include nuts and				
		DOORS				
		Roller shutter doors: Serranda series 1500 galvanised and				
1		7.335x5.000mm Roll-up	No.	2		
2		4.835x3.500mm Roll-up	No.	7		
		LOUVRES				
3		TROX WG 1400x1155 External steel weather lourve.	No.	10		
		STEEL GATES, SCREENS, ETC				
		GALVANISED STEEL GATES, SCREENS, ETC				
		Pre-painted steel security mesh ceiling including frames				
4		4470x3205 20-3GR "Vital" diamond mesh security ceiling	No.	1		
		PRESSED STEEL DOOR FRAMES				
		1,2mm Double rebated frames suitable for double brick				
5		Frame for door 914 x 2032mm high	No.	2		
		GRATING COVERS				
6		1250x500mm VE100 30x3 "Vital" Galvanized steel grating	No.	1		
7		850x850mm VE100 30x3 "Vital" Galvanized steel grating	No.	1		
		Carried to Summary				R -

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ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 10				
		PLUMBING AND DRAINAGE				
		SOIL DRAINAGE				
		Unplasticised polyvinyl chloride (uPVC) pipes:				
1		160 mm uPVC piping laid in earth not exceeding	m	2		
		MANHOLES				
		230mm wide brickwork manholes including				
2		Manhole 1200x800 x 650mm deep wash bay	No.	1		
3		Manhole 800x800 x 1015mm deep wash bay	No.	1		
4		Unreinforced concrete benching in bottom of	No.	2		
		WATER SUPPLIES				
		External water supply:				
		Prices for all piping laid in ground, inspection				
		Holes, chases, etc., are deemed to be included in				
		Excavations				
5		Excavation not exceeding 2m deep for pipe	m^3	30		
6		Extra over excavation in earth for pipe trenches.	m^3	2		
7		Extra over excavation in earth for pipe trenches.	m^3	0.5		
8		Backfilling to pipe trenches	m^3	30		
		Class 10 HDPE pressure pipes with solvent				
9		32 mm Pipes laid in trenches not exceeding 2m	m	50		
		Extra over Class 10 HDPE pressure pipes for				
10		32 mm Fittings	No.	10		
		Class O copper pipes:				
11		22mm Pipes fixed to walls, etc.	m	2		
		Extra over class O copper pipes for copper to				
12		22mm Pipe fittings.	No.	3		
		Testing:				
13		Allow for testing water supply system.	Item	1		
		FIRE APPLIANCES, ETC.				
		Fire hose reels, etc.:				
		Hydrants, hose reels, etc.:				
14		4.5kg Natex DCP Extinguisher (416mm height x	No.	2		
		Carried to Summary				R -

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 11				
		PAINTWORK				
		PAINTWORK, ETC TO NEW WORK ON				
		PREAMBLES				
		For preambles see "Model Preambles for Trades"				
		SUPPLEMENTARY PREAMBLES				
		All painting shall be done in accordance with				
		Guarantee				
		The work must be carried out by a contractor who is				
		Colours				
		Paintwork shall be deemed to be in colours which have a				
		PAINTWORK, ETC TO NEW WORK ON				
		ON FAIR FACE STOCK BRICKS				
		3 Coats "ABE-Dura Latex" or similarly approved according				
1		External walls	m^2	60		
		ON METAL				
		Prepare, touch up factory primer and apply one coat				
5		On door frames	m^2	3		
6		Structural steel members	m^2	1 319		
		Carried to Summary				**R -**

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 12				
		ELECTRICAL WORKS				
		All items are to be priced inclusive of associated labour.				
1		LV POWER SUPPLY				
1.1		Supply and installation of 600/1000V PVC PVC SWA PVC cables with copper conductors				
		a) 16mm² x 4 core Cu conductor	m	120		
1.2		Supply and installation of Bare Copper Earth Wire				
		a) 10mm² BCEW	m	120		
1.3		Supply and installation of 600/1000V PVC PVC SWA PVC cable terminations complete with cable lugs and earthing as required				
		a) 16mm² x 4 core Cu conductor	each	2		
1.4		Supply and installation of BCEW terminations				
		a) 10mm² BCEW	each	2		
1.5		Termination of LV cables onto busbar in existing distribution board or kiosk, including minor adjustments in existing board or kiosk	sum	1		
1.6		Distribution Kiosk				
		a) Kiosk S (Store), weatherproof, wall-mounted, equipped as per relevant single line diagram, with spare capacity as indicated	each	1		
1.7		75mm diameter uPVC Sleeves complete with slow bends, drawwire and end-caps	sum	1		
		CARRIED FORWARD TO NEXT PAGE				

		BROUGHT FORWARD FROM PREVIOUS PAGE				
2		**INTERIOR AND EXTERIOR LIGHTING**				
2.1		Supply and installation of the luminaires as per relevant drawings				
		a) Regent Nimbus LED luminaire, 1578mm length, 63W, 4000K, IP66, or similar approved unit, mounted to roof truss or otherwise indicated	each	71		
		b) Regent Boda 200W LED Luminaire, Flood Light, with stirrup bracket;	each	15		
2.2		Photocell, fitted at distribution kiosk position	each	1		
2.3		Light Switches				
		a) 1 lever 1-way, Mounted @ 1200mm A.F.F.L.	each	1		
		c) 1 lever 2-way, Mounted @ 1200mm A.F.F.L., Weatherproof	each	7		
		Wireways for Lighting				
2.4		a) Surface-mounted, Galvanized Steel, including mounting accessories, fixtures, drawboxes, routing to Engineer's approval	sum	1		
		Wiring for Lighting				
2.5		Supply and installation of the following PVC insulated conductors with				
		a) 2-core x 2,5mm² Cu, with 2,5mm² earth	sum	1		
		b) 2-core x 4mm² Cu, with 2,5mm² earth	sum	0		
3		**POWER OUTLETS**				
3.1		Supply and install the following socket outlets as specified, surface				
		a) 2 x 16A Normal Switched Socket Outlet, 1200mm A.F.F.L. - Surface	each	8		
		b) 2 x 16A Normal Switched Socket Outlet, 1200mm A.F.F.L. -	each	5		
		d) 3-phase Switched Socket Outlet, 1200mm A.F.F.L. - Surface	each	2		
		d) 3-phase Switched Socket Outlet, 1200mm A.F.F.L. - Surface	each	1		
3.2		Wireways for Power Outlets				
		a) Surface-mounted, Galvanized Steel, including mounting accessories,	sum	1		
3.3		Wiring for Power Outlets				
		Supply and installation of the following PVC insulated conductors with				
		a) 2-core x 2,5mm² Cu, with 2,5mm² earth	sum	1		
		b) 2-core x 4mm² Cu, with 2,5mm² earth	sum	1		
		c) 4-core x 4mm² Cu, with 2,5mm² earth	sum	1		
		CARRIED FORWARD TO NEXT PAGE				

		BROUGHT FORWARD FROM PREVIOUS PAGE				
4		**BUILDING EARTHING**				
4.1		Complete earthing of the buildings as per drawing and as specified in a) 1.2m Copper Earth Spike b) Earth Terminations (Cad Weld) c) 70mm² BCEW d) 70mm² BCEW termination (at kiosk) e) up to 25mm diameter sleeves f) Trenching and backfill in pickable soil g) Testing and certification of the earthing system including all test	Provisi	1		
5		**TESTING AND COMMISSIONING**				
5.1		Testing and commissioning of the LV Supply Network including the	sum	1		
5.2		Testing and commissioning of the External Lighting including the	sum	1		
5.3		Testing and commissioning including all Building Equipment including	sum	1		
5.4		Provide As Build documentation, operating and maintenance manuals	sum	1		
		Carried to Summary				**R -**

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION 2: BILL NO. 13				
		PROVISIONAL SUMS				
		SYSTEM DRAINAGE				
1		Provide the amount of R 12 500.00 (Twelve Thousand	Item	1	R 12 500.00	R 12 500.00
2		Profit on 1 item above	%			
3		Attendance on 1 item above	%			
		STEEL RAMPS				
4		Provide the amount of R 10,000.00 (Ten Thousand Rands)	Item	1	R 10 000.00	R 10 000.00
5		Profit on 1 item above	%			
6		Attendance on 1 item above	%			
		WEIGH BRIDGE				
7		Provide the amount of R 1 200,000.00 (one million two hundred thousand) for the provision of a weigh bridge.	Item	1	R 1 200 000.00	R 1 200 000.00
8		Profit on 1 item above	%			
9		Attendance on 1 item above	%			
10		**FENCING**				
11		Take down and dispose of existing 140m fencing	Item	1	R 5 000.00	R 5 000.00
11		Erect 1,8m High x 140m Long Fencing complete with iron standards and 2,5mm Galvanized wire	Item	1	R 20 000.00	R 20 000.00
		Carried to Summary				**R 1 222 500.00**

Makholokoeng Implementation Store & Weighbridge

ITEM	PAY	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SECTION SUMMARY - SECTION 2:				
1		EARTHWORKS	Item	1	R -	R -
2		CONCRETE, FORMWORK AND REINFORCEMENT	Item	1	R -	R -
3		MASONRY	Item	1	R -	R -
4		WATERPROOFING	Item	1	R -	R -
5		ROOF COVERINGS, ETC	Item	1	R -	R -
6		CARPENRTY AND JOINERY	Item	1	R -	R -
7		IRONMONGERY	Item	1	R -	R -
8		STRUCTURAL STEELWORK	Item	1	R -	R -
9		METALWORK	Item	1	R -	R -
10		PLUMBING AND DRAINAGE	Item	1	R -	R -
11		PAINTWORK	Item	1	R -	R -
12		ELECTRICAL WORKS	Item	1	R -	R -
13		PROVISIONAL SUMS	Item	1	R 1 222 500.00	R 1 222 500.00
					SUB-TOTAL	

Makholokoeng Implementation Store & Weighbridge

ITEM NO	PAY REF	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		FINAL SUMMARY				
1		SECTION 1: PRELIMINARIES	Item	1		
2		SECTION 2: IMPLEMENTATION STORE	Item	1		
		Sub-total				
		CONTINGENCY				
		Allow ten percent (10%) on the above sub-total for contingencies, at the sole discretion of the client and/or the Principal Agent		10.0		
		Sub-total				
		Allow fifteen per cent (15%) of the above sub-total for Value Added Tax	TAX	15.0		
		CARRIED TO FORM OF TENDER				

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C3.1: DESCRIPTION OF THE WORKS

3.1.1 EMPLOYER'S OBJECTIVES

The Employer's objective is **THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE.**

The contractor is expected to make available short-term employment opportunities and skills development to local unemployed people from the beneficiary community.

3.1.2 OVERVIEW OF THE WORKS

THE APPOINTMENT OF A CONTRACTOR TO COMPLETE THE CONSTRUCTION OF MAKHOLOKOENG MECHANISATION CENTRE (IMPLEMENTS STORE) AND CONSTRUCTION OF A WEIGHBRIDGE UNDER MALUTI A PHOFUNG LOCAL MUNICIPALITY WITHIN THABO MOFUTSANYANA DISTRICT MUNICIPALITY IN THE FREE STATE PROVINCE.

- Completion of Construction of an implement store;
- Construction of a Weighbridge

3.1.3 EXTENT OF THE WORKS

3.1.3.1 Extent and Scope

This contract comprises the supply of labour, materials, plant, equipment, transport and management for the completion of the Works.

The scope and extent of the Works comprise the following trades:

- Masonry
- Roof coverings
- Joinery
- Ceilings, partitions and access flooring
- Ironmongery
- Structural steel
- Plumbing and drainage
- Glazing
- Paintwork
- Electrical installation
- Other
- Access road
- Weighbridge

The above merely provides an overview to describe the extent of the contract and in no way relieves the Contractor of fulfilling the full scope of the works described in the tender documentation.

NOTE: Tenderers are required to allow in their tendered prices for the supply of all necessary materials and equipment, the supply and use of tools, the provision, operation and maintenance of all Contractor's plant and equipment, the supply and supervision of all labour and workmanship and everything and every service necessary for the construction, completion and maintenance of the Works in the manner required by the Contract and to the entire satisfaction of the Engineer.

3.1.3.2 Available facilities

The Contractor shall make his own arrangements with the necessary authorities for the supply of electricity, telephones, water for testing as well as portable water for drinking.

3.1.4 LOCATION OF THE WORKS

Ward 1 of Maluti A Phofung Local Municipality within the Thabo Mofutsanyane District Municipality of the Free State Province.
The co-ordinates for the site are 28°17'18.7"S 28°56'48.9"E.

C3.2 ENGINEERING

3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Design responsibilities through to contract completion are as follows:

DESCRIPTION	RESPONSIBLE
Construction of the Works including necessary Temporary Works	CONTRACTOR
Commissioning of the Whole of the Works	CONTRACTOR
Maintaining of the Works during the Defects Liability Period	CONTRACTOR

3.2.2 DRAWINGS

3.2.2.1 General

The drawings as listed section 3.2.2.1 below form part of the tender documents and shall be used for tender purposes only.

Any information in the possession of the Contractor necessary for the Principal Agent (PA) to complete his as-built drawings shall be supplied to the Principal Agent's Representative (PAR) before a Certificate of Completion will be issued.

Only figured dimensions shall be used and drawings may not be scaled unless so instructed by the PA. The PA will supply any figured dimensions, which may have been omitted from the drawings.

The levels given on the structural drawings are subject to confirmation on the site, and the Contractor shall submit all levels to the PA for confirmation before he commences

any structural construction work. The Contractor shall also check all clearances given on the drawings and shall inform the PA of any discrepancies.

3.2.2.1 List of Contract Drawings prepared by Employer (see Annex C5.5)

DRAWING	DESCRIPTION
BCM62-2017	Site layout
DBE-040	Bulk earthworks layout
DCN-100	Foundation layout
DCN-101	Surface bed layout
DCN-102	Sections and details
DST-200	Steel column & girt layout, section & details
DST-201	Roof layout & sections
EE-T-LL-0001	Lighting layout
EE-T-SLD-0001	Single line diagram
EE-T-SP-0001	Small power layout
DAR-051	Ground floor layout
DAR-051	Building elevations
DAR-052	Building elevations

3.2.3 DESIGN PROCEDURES Surface bed layout

The Contractor shall be responsible for the design and specifications for the following aspects of the Works.

- Any temporary works requirements,
- Design integration before and during construction
- The requirements of the relevant Performance Specifications
- Procedures for all necessary approvals
- Environmental Management
- Design change procedures, and
- Record keeping and tracking of documents

C3.3 PROCUREMENT

3.3.1 PREFERENTIAL PROCUREMENT PROCEDURES AND REQUIREMENTS

The system of measurement of preferential procurement points shall be as defined in the Section T1.3: Tender Data.

3.3.2 USE OF LOCAL LABOUR

It is a requirement of the Employer that the contractor appoints and use the local labour.

The service provider is therefore required to limit the use of non-local labour to key personnel only and to employ only local labour on this Contract.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

The service provider shall fill in the relevant forms regarding "Key Personnel" and state how many non-local key personnel he intends to employ in the various categories.

The numbers stated in the "Key Personnel" forms shall be strictly controlled during the Contract Period and any increase in numbers shall be subject to the approval of the Project Manager.

The service provider will be expected to procure, deliver and ensure security of material.

The service provider will also be expected to train, supervise and ensure quality on the project.

Local Labour comprising of NARYSEC participants and local community labourers will be utilized for the erection of the fence and two animal handling facilities.

3.3.3 SUB CONTRACTORS, SMME's, FEMALES & YOUTH

The female component of the total labour force, including labour employed by SMME's must be maximised and women must take up not less than 40% of the total labour days expended on the contract.

The youth (35 years and under but out of school) component of the total labour force, including labour employed by SMME's must be maximised and must take up not less than 20% of the total labour days expended on the contract.

The Department of Rural Development and Land Reform has a National Rural Youth Services Cooperatives (NARYSEC) Programme, which entails training of rural youth at EFT Colleges. In order for the youth to complete their training and get certificates, they have to get onsite experiential training; hence the DRDLR will place some students to be trained under this contract. The extent of the training required by these youth will be explained upon the appointment of the contractor. The Client will provide daily stipend for all NARYSEC employed.

The Employer reserves the right to delay payments to the Contractor should the Contractor fail to provide any item of the required documentation timeously.

In the event of any discrepancy between the requirements of this Clause and the Procurement Policy, the Procurement Policy shall take precedence.

C3.4 CONSTRUCTION

PART A: GENERAL

A1 PRELIMINARIES AND GENERAL

The tenderer is referred to Bill 1 of the pricing document for the full intent of the method of construction.

A2 APPLICABLE STANDARDISED AND PARTICULAR SPECIFICATIONS

The Model Preambles for Trades 2008 as published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said Model Preambles will be entertained.

Supplementary preambles and/or specifications are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the Model Preambles.

The contractor's prices for all items throughout these bills of quantities shall take account of and include for all of the obligations, requirements and specifications given in the Model Preambles and in any supplementary preambles and/or specifications.

PART B: ELECTRICAL SPECIFICATION

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Member of the Surbana Jurong Group

Electrical Works

Electrical Specification - Standard Requirements

Dec 2018

BCM62

Project Name:	Makholokoeng FPSU – Implement Store
Project Number:	BCM62
Report for:	Tender

REVISIONS

Revision #	Date	Change Overview	Prepared by	Reviewed by
0	07/12/2018	First Issue	J Schroeder	E de Waal

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PART B - STANDARD SPECIFICATIONS

1. CONDUIT AND CONDUIT ACCESSORIES

1.1 General

This section covers the installation of conduits and conduit accessories in buildings and other structures under normal environmental conditions and for system voltages up to 600 V.

1. The following types of conduit installations are included:
    a. Screwed metallic conduit - black enamelled and galvanised.
    b. Plain-end metallic conduit - black enamelled and galvanised.
    c. Non-metallic conduit.
    d. Flexible conduit.

2. Conduits may be installed as follows:
    a. In open roof spaces.
    b. Cast in concrete.
    c. Surface mounted against walls, concrete slabs, etc.
    d. In wall chases.

3. Where conduits are to be installed in concrete, this shall be undertaken while the building work is still in progress. Conduits may only be surface mounted where specified or where the Engineer has given its written consent.

4. Under no circumstances will conduit having a wall thickness of less than 1.6mm be allowed in screeding laid on top of concrete slabs.

5. Bending and setting of conduit must be done with special bending apparatus manufactured for the purpose and which are obtainable from the manufacturers of the conduit systems. Damage to conduit resulting from the use of incorrect bending apparatus or methods applied must on indication by the Engineer or inspectorate staff, be completely removed and rectified and any wiring already drawn into such damaged conduits must be completely renewed at the contractor's expense.

6. For light and socket outlet circuits, the conduit used shall have an external diameter of 20mm. In all other instances the sizes of conduit shall be in accordance with the "Wiring Code" for the specified number and size of conductors, unless otherwise specified or indicated on the drawings.

Conduits may not be installed closer than 150mm to pipes containing gas, steam, hot water or other materials, which may damage the conduits or conductors. Conduits may not touch pipes of other service installations in order to prevent electrolytic corrosion. Where this is unavoidable, cathodic protection shall be provided.

Conduit and conduit accessories used for flame-proof or explosion proof installations and for the suspension of luminaries as well as all load bearing conduit shall in all instances be of the metallic screwed type.

1.2 Installation

APPLICATION	CONDUIT SYSTEMS				
	SCREWED STEEL		PLAIN-END STEEL		
	Black	Galv.	Black	Galv.	PVC
Surface: inaccessible roof space	Yes	Yes	Yes	Yes	Yes
Surface above accessible ceiling with other services	Yes	Yes	Yes	Yes	No
Surface above accessible ceiling without other services	Yes	Yes	Yes	Yes	Yes
Surface above accessible ceiling with gang-planks as walkways	Yes	Yes	Yes	Yes	No
Spaces between concrete slabs and false ceilings	Yes	Yes	Yes	Yes	Yes
Surface visible	Yes	Yes	Yes	Yes	No
Surface on open slabs	Yes	Yes	Yes	Yes	No
Covered walkways	No	Yes	No	Yes	No
Hazardous areas	Yes	Yes	No	No	No
Isolated supplies: Secondary of isolating transformer	No	No	No	No	Yes
Built or cut into brick walls	Yes	Yes	Yes	Yes	Yes
Cast in concrete	Yes	Yes	Yes	Yes	Yes
In damp areas	No	Yes	No	Yes	Yes
Exposed to weather	No	Yes	No	No	No
Boiler house	Yes	Yes	Yes	Yes	No
In floors of laundries and other damp areas	No	Yes	No	Yes	Yes
Fire detection	Yes	Yes	Yes	Yes	Yes

1.3 Screwed Metallic Conduit

1.3.1 General

In general, screwed steel conduit shall be used in the wiring of buildings. The installation shall comply with SANS 10142.

1.3.2 Galvanised Conduit

Galvanised conduit and accessories shall be used in the following:

(a) In damp areas.
(b) In areas exposed to the weather.
(c) For all installations within 50 km of the coast.
(d) In plenum chambers containing humidifying equipment.
(e) For surface mounted conduit installations in kitchens and boiler rooms.
(f) In screeds resting directly on soil.
(g) For connection points to future installations.
(h) For underground conduit containing earthing conductors.

(l) In buildings where animals are housed such as cattle, sheep, dogs, etc.

1.3.3 Terminations

Spouted Connections

Conduits shall be connected directly to draw-boxes with spouted connections. Conduits shall be screwed tightly home and no threads shall be visible.

Switchboards, Power skirting, etc

Conduits shall be terminated by means of a brass female bush and two locknuts in pressed steel switchboards and distribution boxes, cable ducts, power skirting, etc. The conduit end shall only project far enough through the entry hole to accommodate the bush and locknut. Alternatively the method detailed in 2.3.3 may be used.

Draw-boxes

A female bush and two locknuts shall be used to terminate conduits at draw-boxes and outlet boxes without spouts, should there be sufficient room in the box. Where there is insufficient room, a coupling, brass male bush and locknut may be used with sufficient allowance for the reduction of the internal diameter by the male bush.

Holes

Holes to accommodate brass bushes shall be large enough to accommodate the bush with a minimum of clearance.

Bush-nuts

Bush-nuts for the connection of earth conductors to conduits are not acceptable.

1.3.4 Screws, Bolts and Nuts

Steel locknuts of thick gauge steel with milled sides shall be used in all cases. Cadmium-plated bolts and nuts shall be used except where the installation is exposed to the weather in which case brass bolts and nuts shall be used. Screws shall be installed in all tapped holes in fittings and accessories to prevent damage to the screw thread by concrete or plaster. The screws shall be screwed completely down to prevent damage to the thread on the screw.

1.3.5 Conduit Ends

Conduit ends shall be cut at right angles to ensure that ends butt squarely at joints. Threads shall not be visible at joints and connections except at running joints. The total length of the thread on the two conduit ends shall not exceed the length of the coupling.

1.3.6 Joints

All conduit ends shall be reamed and all joints tightly screwed. Only approved couplings shall be used. Running joints with long threads shall be kept to a minimum and locknuts shall be provided to ensure a strong mechanical and a continuous electrical joint. Running joints in screwed conduit are to be avoided as far as possible and all conduit systems shall be set or bent to the required angles. The use of normal bends must be kept to a minimum with exception of larger diameter conduits where the use of such bends is essential.

1.3.7 Finish

All joints shall be painted with red lead to prevent them from rusting in damp areas, areas within 50 km of the coast and in cases where the installation is exposed to the weather for any length of time. Where the galvanising or black paint has been damaged, the area shall first be cleaned and a coat of zinc base paint applied subsequently. Additional coats of paint shall only be applied after the undercoat has completely dried. All surface mounted non-galvanised metallic conduit must be painted.

1.3.8 Continuity

Mechanical and electrical continuity shall be maintained throughout the conduit installation.

1.4 PLAIN END METALLIC CONDUIT

As an alternative to the screwed conduit, plain-end conduit complying with the Engineer's standard specification may be installed subject to the following additional conditions:

1. Bending and setting of plain-end conduit must be done with special benders and apparatus manufactured for this purpose and which are obtainable from the suppliers of the system. Damaged conduit resulting from the use of incorrect bending apparatus shall be completely removed and any wiring already drawn into such damaged conduits shall be completely renewed at the Contractor's expense.
2. Screwed conduit must be used in the following instances:
   a) In flameproof installations.
   b) Load bearing conduit.
   c) For the suspension of luminaries.
   d) Surface mounted conduit.
3. Plain-end conduit and associated accessories shall be manufactured of mild steel having a minimum thickness of 1.2 mm and shall comply with SANS 1065. Conduit manufactured of lighter gauge material, i.e. 0.97 mm, will not be permitted.
4. All conduit and accessories used in areas within 50 km of the coast shall be hot-dip galvanised to SANS 32 & 121. In inland areas Electro-galvanised or cadmium-plated accessories will be accepted.

1.5 NON METALLIC CONDUIT

1.5.1 INSTALLATION CONDITIONS

Where specified for a particular service, non-metallic conduit may be installed under the following conditions:

1. All non-metallic conduit shall comply fully with SANS 950 and shall be installed in accordance with Appendix C of the same specification as well as SANS 10142.
2. Insulated heat-resistant boxes shall be used for outlets of totally enclosed luminaries and other fittings where excessive temperatures are likely to occur.

3. Luminaries and other fittings shall not be supported by non-metallic conduit or conduit boxes. These fittings shall be secured to the surrounding structure in a way that is acceptable to the Engineer. Refer to the Engineer's standard specification for "INSTALLATION OF LUMINAIRES", Section 9.
4. The conduit shall be supported and fixed with saddles with a maximum spacing of 1 m, even in roof spaces. (Refer to SANS 10142.) The Contractor shall supply and install all additional supporting timbers required.
5. It shall be possible to rewire the completed installation in the future without undue difficulty.
6. Non-metallic conduit and fittings shall not be used under the following conditions:
   a) Outside a building (unless protected, or sheltered under eaves).
   b) For mechanical load bearing.
   c) Where they may be subjected to temperatures below -10°C or above 70°C for prolonged periods.
   d) As primary electrical insulation.
   e) In areas where they may be subject to mechanical damage.
   f) For applications other than those for which they are designed.
   g) In concrete slab unless specified to the contrary.

1.5.2 PAINTING OF CONDUITS

Exposed conduit may be painted with normal oil or PVA paints, but care must be taken to ensure that the paint used does not contain any component that will soften or have any other detrimental effect on the materials from which the conduit and fittings are manufactured.

1.5.3 CONNECTING OF CONDUIT TO METAL EQUIPMENT/COMPONENTS

When any part of a non-metallic conduit system has to be connected to metal equipment or components (e.g. switchboard, surface socket-outlet or switch box, existing metallic conduit system, etc.) fittings and joints manufactured specifically for this purpose must be used. Non-metallic conduit must not be threaded to fit metallic connectors.

1.5.4 BENDS

In conduit of nominal size not exceeding 25 mm, bends may be made in accordance with par. 4.5. In all other cases bends must be achieved by the use of accessories that are introduced into the conduit run. Bends shall comply with SANS 10142.

1.5.5 BENDING

Conduit of nominal size up to and including 25mm may be cold bent by hand provided that the radius of the bend is greater than six times the nominal size of the conduit, and that the external angle of the bend does not exceed 90°. The procedure (which involves the use of a bending spring) should be as follows:

a) Determine the angle through which the conduit is to be bent.

b) Warm the cold conduit over the length to be bent by rubbing with hands.

c) Select a bending spring which matches the conduit size and insert in to the conduit at the point where the bend is required.

d) Bend the conduit slowly with one motion (either with the hands alone approximately 1 m apart, or across the knee) to double the required angle, release the conduit and, when its position is stable, withdraw the bending spring (turning it in an anti-clockwise direction to reduce its diameter) and gently correct the angle.

e) Install and secure the conduit immediately following bending.

1.5.6 ADHESIVE JOINTS

All adhesive joints must be made in a clean dry area. The surfaces of all components to be bonded must be dry and clean.

The insertion depth should be marked on the conduit end and the adhesive applied (by means of a soft clean brush) as quickly as possible to the surfaces to be bonded by brushing lengthwise along the conduit, ensuring that a thin coating of uniform thickness is formed. The joint must be made immediately after the application of the adhesive by pushing the prepared parts squarely together with a twisting motion to the full insertion depth. Care must be taken to avoid squeezing adhesive into the cableway and all excess adhesive must be wiped off.

NOTE: Solvent adhesives contain highly volatile liquids and their containers should not be left open.

1.5.7 Cutting

A fine-tooth hacksaw should be used to cut conduit to the required length. Each cut end should be square and free from swarf, burrs and loose material. When determining the length of conduit to be cut, allowance must be made for the length of couplings or accessories attached to the conduit. Incorrect determination will cause bulging of the conduit or insufficient joint length.

1.6 FLEXIBLE CONDUIT

1. In installations where the equipment has to be moved frequently to enable adjustment during normal operation, for the connection of motors or any other vibrating equipment, for the connection of thermostats and sensors on equipment, for stove connections and where otherwise required by the Engineer, flexible conduit shall be used for the final connection to the equipment.

2. The installation shall comply with SANS 10142.

3. Flexible conduit shall preferably be connected to the remainder of the installation by means of a draw-box. The flexible conduit may be connected directly to the end of a conduit if an existing draw-box is available within 2 m of the junction and if the flexible conduit can easily be rewired.

4. Flexible conduit shall consist of metal-reinforced plastic conduit or PVC-covered metal conduit with an internal diameter of at least 15mm, unless approved to the contrary. In false ceiling voids, flexible conduit of galvanised steel construction may be used. Connectors for coupling to the flexible conduit shall be of the gland or screw-in type, manufactured of either brass or mild steel plated with either zinc or cadmium.

1.7 INSTALLATION REQUIREMENTS

1.7.1 Positions of Outlets

All accessories such as boxes for socket-outlets, switches, lights, etc. shall be accurately positioned. It is the responsibility of the Contractor to ensure that all outlets are installed level and square, at the correct height from the floor, ceiling or roof level and in the correct position relative to building lines and equipment positions as specified. It shall be the responsibility of the Contractor to determine the correct final floor, ceiling and roof levels in conjunction with the Main Contractor. Draw-boxes shall not be installed in positions where they will be inaccessible after completion of the installation. Draw-boxes shall be installed in inconspicuous positions to the approval of the Engineer's representative and shall be indicated on the "as built" drawings.

1.7.2 Cover plates

All draw-boxes and outlets shall be fitted with cover plates, either as part of the switch or socket assembly or with blank cover plates if unused. Blank cover plates shall match other cover plates in the same area. Flush mounted cover plates in both ceilings and walls shall overlap the draw-box and edges of the recess. If the fixing lugs are substantially deeper than the finished wall surfaces, suitable coiled steel wire or tubes shall be used as spacers.

1.7.3 Draw-wires

Galvanised steel draw-wires shall be installed in all unwired conduits e.g. conduits for future extensions, telephone installations and other services.

1.7.4 Bends

A maximum of two 90 bends or the equivalent displacement will be allowed between outlets and/or boxes.

Draw-boxes shall be installed at maximum intervals of 15 m in straight runs. All bends shall be made without heating the conduit or without reducing the diameter of the conduit. The inside radius of a bend shall not be less than five times the outside diameter of the conduit. (Refer to SANS 10142)

1.7.5 Wall Socket-outlets

Where more than one socket-outlet is connected to the same circuit, the conduit shall be looped from one outlet box to the following on the same circuit. Where a metal channel is used, the conduit may be installed from the channel directly to the outlet box on condition that the conductors can be looped from one outlet to the next without making any joints in the wires.

1.7.6 Luminaires

Where the conduit end is used to support luminaries, a ball-and socket type lid shall be fitted to the pendant box in all cases where the conduit is longer than 500 mm. In all other cases a dome lid may be used. Where luminaries are specified which are fixed directly to the pendant box, the pendant box shall be fixed independently of the conduit installation except where the pendant box is cast into concrete.

1.7.7 Flush Mounted Outlet Boxes

The edges of flush mounted outlet boxes shall not be deeper than 10 mm from the final surface. Spacer springs shall be used under screws where necessary.

1.7.8 Excess Holes

All excess holes in draw-boxes or other conduit accessories shall be securely blanked off by means of brass plugs to render the installation vermin proof.

1.7.9 Debris

Care shall be taken to prevent debris or moisture from entering conduits during and after installation. Conduit ends shall be sealed by means of a solid plug which shall be screwed to the conduit end. Conduits shall be cleaned and swabbed to remove oil, moisture or other debris that may be present before conductors are installed. Swabs shall not be attached to the conductors.

1.7.10 Defects

Each length of conduit shall be inspected for defects and all burrs shall be removed. All conduits that are split, dented or otherwise damaged or any conduits with sharp internal edges shall be removed from site. The Contractor shall ensure that conduits are not blocked.

1.7.11 Withdrawal of Conductors

To ensure that all electrical conductors are easily withdrawable from conduits and to ensure that there are no joints in the conductors, the Engineer's representative will have the right to have the conductors of any circuit removed at his discretion. If the conductors are found to have been damaged during installation or removal or if joints are found, they shall be replaced and the cost shall be borne by the Contractor.

1.8 INSTALLATION IN CONCRETE

1.8.1 Timeous Installation

In order not to delay building operations, the Contractor shall ensure that all conduits and accessories which are to be cast in concrete are placed in position in good time. The Contractor or his representative shall be in attendance when the concrete is cast.

1.8.2 Draw-boxes

Draw-boxes, expansion joints and round ceiling boxes shall be installed where required and shall be neatly finished to match the finished slab and wall surfaces. Ceiling draw-boxes shall be of the deep type. In hollow block slabs, rear-entry draw-boxes shall be used. In columns where flush mounted draw-boxes are installed, the conduits shall be offset from the surface of the column immediately after leaving the draw-box.

1.8.3 Elbows

Elbows for conduits of 32mm dia. and smaller and sharp bends will not be allowed in concrete slabs.

1.8.4 Cover Plates

Draw-boxes and/or inspection boxes shall, where possible, be grouped together under a common approved cover plate, and must preferably installed in passages or male toilets. The cover plate shall be secured by means of screws.

1.8.5 Neutral Axis

All conduits shall be installed as close as possible to the neutral axis of concrete beams, slabs and columns. The conduits shall be rigidly secured to the reinforcing to prevent movement towards the surface of the concrete.

1.8.6 Fixing to the Shuttering

All conduits, draw-boxes etc. shall be securely fixed to the shuttering to prevent displacement when concrete is cast. Draw-boxes and outlet boxes shall preferably be secured by means of a bolt and nut installed from the back of the box through the shuttering. Fixing lugs may also be used to screw the boxes to the shuttering. Wire will not be accepted for securing boxes to the shuttering where off-shutter finishes are required. Where fibreglass shuttering is used by the Builder, the equipment shall be fixed to the steel only and no holes shall be drilled or made in shuttering. All draw-boxes and outlet boxes shall be plugged with wet paper before they are secured to the shuttering.

Before any concrete slabs are cast, all conduit droppers to switchboards shall be neatly spaced and rigidly fixed.

1.8.7 Concrete Floor Slabs

Conduits will not be allowed in concrete floor slabs of boiler rooms (or boiler houses), laundries or other damp areas. All socket outlets and three phase outlets in damp areas shall be supplied from above with galvanised conduit and accessories.

1.8.8 Expansion Joints

As far as possible, conduits shall not be installed across expansion joints. Where this is unavoidable a conduit expansion joint shall be provided. (Refer to par. 10)

1.8.9 Screeds

The installation of conduits in floor screeds shall be kept to a minimum. Where conduits are installed in screeds, the top of the conduit shall be at least 20 mm below the surface of the screed. Where the screed is laid directly on the ground, galvanised conduits shall be used. This ruling will always be applicable to the lowest floor of a building. A minimum distance of twice the outside diameter of the conduit shall be left free between adjoining conduits. Conduits shall be secured to the concrete slab at intervals not exceeding 2 m. The Contractor shall ensure that conduits are not visible above the screed where the conduits leave the screed.

1.8.10 Inspection

All draw-boxes, conduits, etc. which are installed in concrete shall be cleaned with compressed air and provided with draw-wires two days after removal of the shuttering. Errors that occurred during the installation of the conduits, or any lost draw-boxes, or blocked conduits shall be immediately reported to the Engineer by telephone and confirmed in writing in order that an alternative route can be planned and approved by the Engineer before the additional concrete is cast. Any additional cost shall be for the Contractor's account.

1.9 SURFACE INSTALLATIONS AND INSTALLATIONS IN ROOF SPACES

Wherever possible, the conduit installation is to be concealed in the building work; however, where unavoidable or otherwise specified, conduit installed on the surface must be plumbed or levelled and only straight lengths shall be used.

1.9.1 Appearance

a) All conduits shall be installed horizontally or vertically as determined by the route and the Contractor shall take all measures to ensure a neat installation.
b) Where conduits are to be installed directly alongside door frames, beams, etc. that are not true, conduits shall be installed parallel to the frames, beams, etc.
c) All labels shall be removed from surface mounted conduit.

1.9.2 Saddles

Conduits shall be firmly secured by means of saddles and screws and in accordance with SANS 10142. Where saddles are used to secure vertical lengths of conduit connected to surface mounted switch boxes or socket outlet boxes, the saddles shall be spaced so that the intervals between the box and the first saddle, between any two successive saddles and between the last saddle and the ceiling or roof are equidistant. Conduits shall be secured within 150 mm before and after each 90° bend and within 100mm of each outlet box.

1.9.3 Joints

Joints will only be allowed in surface conduit lengths exceeding 3.5 m. Threads shall not be visible at joints of completed installations, except where running joints are used. Running joints will be allowed only when absolutely necessary. All running joints shall be provided with locknuts and shall be painted with red lead immediately after installation.

1.9.4 Accessories

Inspection bends or tee pieces shall not be used. Non-inspection type bends may be used in the case of 32mm or 50 mm diameter conduits. All draw-boxes supporting luminaries or other equipment shall be fixed independently of the conduit installation.

1.9.5 Offsets

Where an offset is required at conduit terminations or crossovers, the conduit shall be saddled at the offset.

1.9.6 Cross-over

Conduit routes shall be carefully planned to avoid crossovers. Where a crossover is inevitable, one conduit only shall be offset to cross the other. Crossovers shall be as short as possible and shall be uniform. Alternatively, crossovers shall be installed in purpose-made boxes. This method shall be employed on face brick walls and in other circumstances where required by the Engineer.

1.9.7 Parallel Conduit

Parallel conduit runs shall be equidistant and saddles shall be installed in line. Alternatively, a special clamp may be used to secure all conduits in unison. In the case of conduits of different diameters, the latter method shall only be used if a purpose-made clamp designed to accommodate the various conduit sizes, is provided.

1.9.8 Painting of Conduit

All surface mounted conduits and accessories shall be painted with two coats of a high quality enamel paint or as otherwise specified. The colour shall comply with the colour code specified for the installation or where no code has been specified, shall match the colour of the surrounding finishes.

1.9.9 Conduit in Roof Spaces

1. In open roof spaces (no ceiling) conduits shall run along the wall plates and the rafters. The installation of conduits suspended between the rafters is not acceptable.
2. Conduit in roof spaces shall be installed parallel or at right angles to the roof members and shall be secured at intervals not exceeding 1.5 m by means of saddles screwed to the roof timbers for metallic conduit and 1m for non-metallic conduit.
3. Nails or crampets will not be allowed.
4. Under flat roofs in false ceilings or where there is less than 900 mm clearance, or in instances where the ceilings are insulated with glass-wool or other insulating material impeding access, the conduit shall be installed in a manner which allows for wiring from below the ceilings.
5. Conduit runs from switchboards shall terminate in fabricated sheet steel draw-boxes installed directly above or in close proximity to the boards.
6. Spare conduits covering the total number of spare ways on switchboards, shall be provided between the boards and the roof draw-box.
7. Where non metallic conduit has been specified for a particular service, the conduit shall be supported and fixed with saddles with a maximum spacing of 450mm throughout the installation. The contractor shall supply and install all additional supporting timbers in the roof space as required.

1.9.10 Fixing to Walls

Only approved plugging materials such as aluminium inserts, fibre plugs or plastic plugs, etc., and round-head screws shall be used when fixing saddles, switches, plugs etc. to walls. Wood plugs are not acceptable nor should plugs be installed in joints in brick walls.

1.10 FUTURE EXTENSIONS

1.10.1 Open Roof Spaces

Conduits intended for future switches and socket outlets, shall terminate 40 mm above the tie beams in roof spaces with more than 900 mm free space. The conduit ends shall be threaded and fitted with a coupling and brass plug.

1.10.2 Concrete Slabs

Conduit ends shall protrude 150 mm from the concrete to facilitate the installation of future extensions above, below or to the side of the concrete slabs. All these conduits shall be connected to a draw-box, which is cast into the concrete within 2 m of the end of the concrete. Conduit ends shall be threaded and fitted with a coupling and brass plug. In cases where holes cannot be drilled through the shuttering to accommodate the conduit end, a deep draw-box with rear entry may be placed over the conduit end.

1.10.3 Cover Plates

Unused boxes for switches and socket-outlets shall be covered with metal cover plates. Unused boxes for luminaries shall be covered with round galvanised metal cover plates, which fit tightly against the finished surface. The cover plate shall overlap the outlet box and recess.

1.10.4 Galvanised Conduit

Galvanised conduit shall be installed at all free ends intended for future extensions. The conduit shall be treated with a paint, which will prevent corrosion and white rust.

1.11 EXPANSION JOINTS

1. Where conduits cross expansion joints in the structure, approved draw-boxes which provide a flexible connection in the conduit installation shall be installed.
2. The draw-box shall be installed adjacent to the expansion joint of the structure and a conduit sleeve, one size larger than that specified for the circuit, shall be provided on the side of the draw-box nearest the joint. The one end of the sleeve shall terminate at the edge of the joint and the other shall be secured to the draw-box by means of locknuts.
3. The circuit conduit passing through the sleeve shall be terminated 40 mm inside the draw-box and in the case of metallic conduit, the conduit end shall be fitted with a brass bush. The gap between the sleeve and the conduit at the joint shall be sealed with 'Pratley Tic-Tac' or equal sealing compound, to prevent the ingress of wet cement. In the case of metallic conduit, an earth clip shall be fitted to the conduit projection inside the draw-box and the conduit bonded to the box by means of 2,5mm2 bare copper earth wire and a brass bolt and nut.

4. The end of the other circuit conduit shall be secured to the draw-box by means of locknuts and a brass bush in the case of screwed metallic conduit or a standard bushed adaptor for other conduit types.
5. In the case of metallic conduit, a 2,5mm^2 bare copper wire shall be installed between the first conduit boxes on either side of the joint, in addition to an earth wire, which may be specified for the circuit. The conduit boxes shall be drilled and tapped and the earth wire shall be bonded to the boxes by means of lugs and brass screws.
6. Suitable steel cover plates shall be screwed to draw-boxes installed along the expansion joint. The cover plates shall be installed before the ceilings are painted.

7. Where a number of conduits are installed in parallel they shall cross the expansion joint of the structure via a single draw-box. A number of draw-boxes adjacent to each other will not be allowed.

1.12 CHASES AND BUILDER'S WORK

1. Except where otherwise specified the Builder or Main Contractor shall be responsible for the builder's work related to the installation of conduits, outlet boxes, switchboard trays, bonding trays and other wall outlet boxes and will undertake the necessary chasing and cutting of walls and the provision of openings in ceilings and floors for luminaries and other electrical outlets. The Contractor shall notify the Builder or Main Contractor of his requirements and the responsibility lies with the Contractor to ensure that all builder's work is clearly indicated or marked in accordance with his requirements.

2. Electrical materials to be built in must be supplied, placed and fixed in position by the Contractor when required to do so by the Builder or Main Contractor. The Contractor shall also ensure that these materials are installed in the correct positions.

3. Where no Builder or Main Contractor is available, the Contractor must provide all chases and is required to cover conduits installed in chases by a layer of 4:1 mixture of coarse sand and cement, finished 6 mm below the face of the plaster and roughened. Chases shall be deep enough to ensure that the top of conduits are at least 12 mm below the finished surface of the plaster.

4. Where the Contractor is responsible for the cutting of chases or the building in of conduits and other equipment, he will be held responsible for all damage as a result of this work and will be required to make good to the satisfaction of the Engineer.

   This ruling is particularly applicable but not exclusively to the rewiring and renewal of existing installations. Chases shall be made by means of a cutting machine.

5. Under no circumstances shall face brick walls or finished surfaces be chased or cut without the written permission of the Engineer. Where it is necessary to cut or drill holes in the concrete structure, the prior permission of the Engineer shall be obtained.

2. INSTALLATION OF WIRING CHANNELS, UNDERFLOOR DUCTING AND POWER SKIRTING

2.1 RESPONSIBILITY OF THE CONTRACTOR

The Contractor shall supply and install all wiring channels, underfloor ducting and power skirting as specified or as required for the cable, socket outlet and wiring installation including the necessary supports, hangers, fixing materials, bends, angles, junctions, T-pieces, etc. He shall further liaise with the Main contractor to verify the position of holes and access routes through the structure and finishes.

2.2 WIRING CHANNELS

2.2.1 Fixing

The Contractor shall supply and install all hangers, supports or fixings for the channels. Channels up to and including 76 x 76 mm shall be supported at maximum intervals of 600 mm and larger channels at maximum intervals of 1 m. Channel runs shall be carefully planned to avoid clashes with other services and to ensure that all covers can be removed after completion of the entire installation. Purpose made clamps, hangers, etc. shall be used as required. Where it is not possible to support the channels at the specified intervals, they shall be supported in a sound manner to the satisfaction of the Engineer.

2.2.2 Installation in Concrete

Where channels are cast into concrete, the insert type shall be used. Additional spacer blocks shall be used where necessary to prevent ducts from being deformed while the concrete is cast. Channels shall be filled with polystyrene or other suitable fillers to prevent the ingress of concrete and shall be securely fixed in position to the shuttering.

2.2.3 Cover Plates

All channels up to and including 127mm width shall have snap-in cover plates of metal or PVC. Cover plates for wider channels shall be of metal and shall be fixed by means of screws at suitable intervals to prevent warping. Cover plates shall be installed over the full length of the channels. Flush mounted wiring channels shall be fitted with overlapping metal cover plates with plastic edge trim to cover irregularities in the wall recess.

2.2.4 Joints

Adjoining lengths shall be aligned and securely joined by means of fishplates fixed by mushroom bolts, washers and nuts or connection pieces that are pop-riveted to both adjoining sections. All adjoining sections shall be rectangular and shall butt tightly. Covers shall fit tightly across the joints.

Where channels cross expansion joints in the structure, suitable expansion joints shall be provided in the channels by means of fishplates pop-riveted or screwed to the channel on one side of the expansion joint and floating freely in the channel on the other side of the expansion joint.

2.2.5 Support for Conductors

All conductors in inverted cable channels shall be retained by means of metal clips or metal spacer bars at not more than 1m centres. Where vertical duct lengths exceed 5m, conductors installed in

the channels shall be secured at intervals not exceeding 5m to support the weight of the conductors. Clamps shall be provided in suitable draw-boxes for this purpose.

2.2.6 Conduit Connections

Conduit connections shall be terminated by means of two locknuts and a brass female bush. Where the channel is wide enough, conduit connections may be made by means of a conduit box and hole through the back or side of the channel. All holes through which conductors pass shall be fitted with bushes or grommets or shall be sleeved.

2.2.7 Internal Finishes

Bends and T-joints shall be constructed to ensure compliance with the allowable bending radii specified in SANS 10142, Appendix D in the case of PVC-insulated cables and conductors and shall comply with the relevant specification in the case of other cables. Burrs and sharp edges shall be removed and the inside edges of the joints shall be lined with rubber cement or other suitable rubberised or plastic compound to prevent laceration of the conductor insulation.

2.2.8 Vermin proofing

All cable channels shall be vermin proofed after installation. Holes shall be covered by means of screwed metal plugs or by means of metal strips, which are bolted, or pop-riveted to the channel. Wooden or other plugs which are driven into holes or other temporary plugs or covers are not acceptable.

2.2.9 Services

Multiple duct runs or internal metal partitions shall be used where conductors for power, control, communication and other services are present.

2.3 POWER SKIRTING

2.3.1 General

1. Two or three compartment power skirting as specified shall be supplied and installed in the positions and according to the layouts indicated on the drawings.

2. The top compartment shall be used for power wiring and switched socket outlets, whilst the bottom compartments shall be for telephone and other light current services.

2.3.2 Module

1. The power skirting shall be manufactured from 1mm (minimum) thick sheet steel or aluminium (as specified) in approximately 2.5m lengths.

2. The covers shall be manufactured in modular lengths, as specified in the Detail Technical Specification or otherwise in 1 m lengths and shall be secured to the wall channel by means of toggle or swivel nuts. Snap-in covers are also acceptable.

3. At the building module lines, covers of specified length or otherwise in 250 mm lengths shall be installed, against which partition walls may be installed, thereby trapping these covers. The removable modular covers shall be installed between these "fixed" covers.

4. Each modular cover associated with the power compartment shall be punched and prepared for the installation of either a 13A or a 16A, 3-pin standard flush switched socket outlet, whether any is specified or indicated for that module or not. Where socket outlets are not installed, the punched holes shall be blanked off with a metal blanking plate, painted the same colour as the power skirting and installed at the back of the covers. These blanking plates shall be easily removable to permit future installation of socket outlets.

5. Unless otherwise specified, no provision shall be made on the covers of the telephone or light current services compartments for the installation of sockets.

6. Factory-made end covers shall be installed at the ends of all runs of power skirting. All internal and external bends or offsets shall be factory-made and shall be installed to provide a neat and workmanlike appearance.

2.3.3 Painting

The power skirting shall be painted in a colour as specified by the Engineer. Aluminium power skirting shall be anodised. The power skirting channels and covers shall be individually wrapped or packed to protect them against damage in transit and before installation.

2.3.4 Socket-outlets

1. Standard 13 A or 16 A, 3-pin flush switched socket outlets (100 x 50 mm nominal size) shall be supplied and installed in the positions indicated on the drawings and as specified in the Detail Technical Specification.

2. The switched socket outlets shall be secured to the channel by means of suitable brackets.

3. After installation of the modular front covers, they shall be screwed to the socket outlets to ensure proper alignment between the two components. Separate standard covers need not be provided for the socket outlets.

2.3.5 Conduit Feeders

1. Conduits for the circuit wiring to the power skirting shall be installed in the floor slab and shall terminate in flush conduit or boxes, behind the power skirting and installed to match the height of the power, telephone and light current services compartments of the skirting.

2. The wiring/cables shall pass through large diameter holes cut in the rear of the power skirting. The holes shall be suitably bushed or trimmed to prevent damage to the wiring or cables.

3. Alternatively conduits feeding to the telephone compartment may be terminated in boxes facing upwards in the floor slab immediately below the power skirting, with suitable bushed or trimmed openings being provided through the bottom of the power skirting duct for the cables to pass through. (Applicable only where the power skirting occurs at floor level).

2.3.6 Power skirting at Doorways

Where a section of power skirting is interrupted by a doorway, bridging conduits shall be installed to interconnect the power skirting sections. Where conduits are not specifically indicated, a minimum of 1 x 32mm bridging conduit shall be installed for each of the power, light current and telephone compartments.

2.3.7 Cleaning

Prior to fitting front covers, the power skirting shall be thoroughly cleaned to remove all dust and rubble and damage to paintwork where this has occurred, shall be repaired.

3. INSTALLATION OF CABLE TRAYS AND LADDERS

3.1 RESPONSIBILITY OF THE CONTRACTOR

The Contractor shall supply and install all cable trays and/or ladders as specified or as required by the cable routes including the necessary supports, clamps, hangers, fixing materials, bends, angles, junctions, reducers, T-pieces etc. He shall further liaise with the Main Contractor for the provision of holes and access through the structure and finishes.

3.2 SUPPORTS

Cable tray supports shall consist of two steel hangar rods, at least 8mm in diameter, on both sides of the tray with a substantial steel cross-member on the underside of the tray and bolted to the rods. Alternatively, cable trays may be cantilevered from walls on suitable brackets.

3.3 SPACING OF HORIZONTAL SUPPORTS

1. Horizontal trays shall be supported at the following maximum intervals:

   a) 1.2 mm to 1.6 mm thick metal with 12mm to 19 mm return trays.
   1m maximum spacing

   b) 2.5 mm thick metal trays with 76 mm return 1.5m spacing.

   c) Cable ladders with 76mm side rail of 2mm thickness and with crossrungs.
   a. 1.5m spacing

   d) Metal cable ladders other than c) above, including site manufactured angle iron types
   1m spacing

   e) 3 mm thick PVC trays with 40mm return. 1m maximum spacing

   f) 4 mm thick PVC trays with 60mm return 1.5m maximum spacing

2. In addition to the above spacing on the longitudinal run, trays and ladders shall be supported at each bend, offset and T-junction.

3.4 JOINTS

1. Joints shall be smooth and without projections or rough edges that may damage the cables. The Contractor will be required to cover joints with rubber cement or other non-hardening rubberised or plastic compounds if in the opinion of the Engineer joints may damage cables.

2. Joints shall as far as possible be arranged to fall on supports. Where joints do not coincide with supports, joints shall be made by means of wrap-around splices of the same material as the tray and at least 450mm long. The two cable tray ends shall butt tightly at the centre of the splice

and the splice shall be bolted to each cable tray be means of at least 8 round head bolts, nuts and washers. Splices shall have the same finish as the rest of the tray.

3. Splices as described above shall be provided at joints, which do coincide with supports if the loaded tray sags adjacent to the joint due to the interruption of the bending moment in the tray.

3.5 FIXING TO SUPPORTS

Trays shall be bolted to supports by at least two round head bolts per support. Bolts shall be securely tightened against the tray surface to avoid projections which might damage cables during installation.

3.6 FIXING TO THE STRUCTURE

1. Where installed on concrete or brick, the supports for cable trays and ladders shall be securely fixed by means of at least 2 heavy duty, expansion type anchor bolts. Cantilevered trays shall be supported by a minimum of two 6mm diameter expansion bolts per support.

2. It is the responsibility of the Contractor to ensure that adequate fixing is provided since cable trays and ladders that work loose shall be rectified at his expense. The fixing shall take into account site conditions that prevail during installation.

3. Where installed on vertical steelwork, cable trays and ladders shall be fixed by means of 6mm diameter bolts and nuts.

4. On horizontal steelwork, use may alternatively be made of "CADDY" type fasteners.

5. Horizontal trays and ladders shall in general be installed 450 mm below slabs, ceilings, etc. to facilitate access during installation of cables.

6. Multiple runs shall be spaced at least 300 mm apart unless a different spacing is specified in the Detail Technical Specification.

3.7 INSTALLATION OF CABLES

Cables shall be installed adjacent and parallel to each other on the trays with spacing as specified in the Engineer's standard specification for "INSTALLATION OF CABLES", Section 6, and snaked slightly to allow for expansion. Cables shall present a neat appearance and shall under no circumstances be bunched. Cables shall be clamped at maximum intervals of 3 m when installed on horizontal trays and at maximum intervals of 600 mm when installed on vertical trays.

3.8 EARTHING

Metal trays and ladders shall be bonded to the earth bar of the switchboard to which the cables are connected. Additional bare copper stranded conductors or copper tape shall be bolted to the tray or ladder where the electrical continuity cannot be guaranteed. These additional conductors or tapes shall always be installed in outdoor applications and in coastal regions.

3.9 CORROSION

PVC trays shall be used in corrosive atmospheres. All supports shall be adequately protected against corrosion, preferably with a powder coated paint finish.

4. FIXING MATERIALS

4.1 RESPONSIBILITY

It is the responsibility of the Contractor to position and securely fix conduits, ducts, cables and cable channels, switchboards, fittings and all other equipment or accessories as required for the Installation. The Contractor shall provide and fix all supports, clamps, brackets, hangers and other fixing materials.

4.2 FINISHING

All unpainted supporting steelwork installed by the Contractor shall be wire brushed and given one coat of rust-resisting primer, followed by one coat of high quality enamel paint before any other equipment is fixed.

4.3 STRUCTURAL STEEL

Supports, brackets, hangers, etc. may only be welded to structural steel members where prior permission of the Engineer has been obtained. "CADDY" or similar fasteners may be used to fix equipment to structural steel members.

4.4 SCREWS AND BOLTS

Where holes exist in equipment to be fixed, bolts and fixing screws as specified shall be used. Where sizes are not specified, the largest bolt or screw that will fit into the hole shall be used.

4.5 WALL PLUGS

Where the fixing holes in brick or concrete walls are smaller than 10mm dia. and where the mass of the equipment is less than 10kg, wall plugs may be used to fix conduits, cables and other equipment. Fibre or plastic plugs shall be used. Wooden Plugs are not acceptable. Aluminium plugs may be used in face bricks. Plugs installed in joints between bricks are not acceptable. A masonry drill of the correct size shall be used to drill holes for plugs. Round-headed screws of the correct diameter to match the specific plug shall be used throughout.

4.6 ANCHOR BOLTS

Where the fixing holes are 10mm and larger or where the mass of the equipment is 10kg, equipment shall be fixed by means of expanding anchor bolts or by means of bolts cast into the concrete or built into walls.

4.7 GALVANISED EQUIPMENT

Brass screws bolts and nuts shall be used to fix galvanised equipment.

4.8 SHOT-FIRED FIXING

1. Materials such as metal cable ducts or channels may be fixed against walls and concrete slabs by means of the shot-fired fixings.

2. The Contractor shall ascertain whether this method of fixing will carry the weight of the material including conductors, cables and other items of equipment to be installed later. Should it be found that the method of fixing is inadequate and supports tend to loosen, the Contractor will be required to fix the material by an alternative method to the satisfaction of the Engineer.

3. Where the shot-fired method is used, warning signs shall be placed at all entrances leading to the area where this work is in progress. The Contractor shall take all reasonable precautions to prevent accidents. Refer also to The Occupational Health and Safety Act.

4. Nails and explosive charges recommended by the manufacturer shall be used throughout.

4.9 CLAMPS AND BRACKETS

Clamps and brackets used to fix or support equipment such as cable trays, ducts, etc. shall be of a purpose-made type suitable for the specific application. Refer also to the Engineer's standard specification for "CABLE TRAYS AND LADDERS", Section 3 and "INSTALLATION OF WIRING CHANNELS", Section 2.

5. WIRING

This section covers wiring in approved wire-ways for electrical installations in buildings or other structures under normal environmental conditions for 50 Hz systems not exceeding 600 V.

5.1 WIRE-WAYS

1. All unarmoured conductors shall be installed in conduits, cable channels (trunking) or power skirting and shall under no circumstances be exposed. Cable channels and power skirting shall be of metal construction unless specifically approved to the contrary.

2. Tenderers must note that common wire-ways will only be permitted for relatively light current-carrying conductors such as lighting and socket-outlet circuits. Refer also to par. 4 below. Heavy current-carrying conductors such as feeders to distribution boards and large power points, must be installed in separate conduits or wire-ways.

5.2 ORDER OF WORK

Wiring shall only be carried out after the wire-way installation has been completed, but before painting has commenced. Debris and moisture shall be removed from the wireways prior to the installation of the conductors.

5.3 CIRCUITS

Conductors that are connected to different switchboards, shall not be installed in the same wireway. The wiring of one circuit only will be allowed in a 20 mm dia. conduit with the exception of the wiring from switchboards to fabricated sheet metal boxes close to switchboards in which

case more than one circuit will be allowed. For larger conduit sizes the requirements of SANS 10142, shall be met.

5.4 LOOPING AND JOINTS

A loop-in wiring system where conductors are looped from outlet to outlet, shall be employed. Joints in conductors shall be avoided as far as possible but where it becomes unavoidable, joints will be accepted in cable channels only and not in conduits. Joints shall be soldered or shall alternatively consist of approved ferruling, properly covered with heat-shrink sleeves. The use of PVC insulation tape is not acceptable.

5.5 GROUPING OF CONDUCTORS

In cases where the conductors of more than one circuit are installed in the same wireway, the conductors of each separate circuit (including earth conductor) shall be taped at intervals of 1m with PVC insulation tape. The conductors of different circuits shall however remain separate in order that any given circuit can be withdrawn. Conductors entering switchboards or control boards shall be grouped and bound by means of plastic or metal bands (not tape).

5.6 CABLE TRAYS

Conductors may only be installed directly on cable trays if specifically approved by the Engineer. In these cases cable trays shall be at least 2m above walkways or working areas. Conductors of the same circuit shall be grouped in the same manner as described in the previous paragraph. All the conductors on the cable tray shall then be tied down securely to the cable tray at intervals of 2m or less by means of plastic or metal bands (not tape).

5.7 DRAWING-IN OF CONDUCTORS

When conductors are drawn through conduit, care shall be taken that they are not kinked or twisted. Care shall also be taken that the conductors do not come into contact with materials or surfaces that may damage or otherwise adversely affect the durability of the conductor.

5.8 THREE-PHASE OUTLETS

1. With the exception of three-phase outlets, circuits connected to different phases shall not normally be present at lighting, switch or socket outlet boxes. Where this is unavoidable, barriers shall be provided between terminals or connections of the various phases and the box shall be suitably labelled internally to indicate the presence of three phase voltages.

2. A neutral conductor shall be installed to all three phase outlets intended for equipment connection, whether sockets or isolators, irrespective of whether the particular equipment normally requires a neutral or not.

5.9 VERTICAL CONDUIT INSTALLATION

Conductors installed in vertical wire-ways shall be secured at intervals not exceeding 5m to support the weight of the conductors. Clamps shall be provided in suitable drawboxes for this purpose.

5.10 CONNECTIONS

The insulation of conductors shall only be removed over the portion of the conductors that enter the terminals of switches, socket outlets or other equipment. When more than one conductor enters a terminal, the strands shall be securely twisted together. Under no circumstances shall strands be cut off.

5.11 EARTHING CONDUCTORS

1. When earth continuity conductors are looped between terminals of equipment, the looped conductor ends shall be twisted together and then soldered or ferruled to ensure that earth continuity is maintained when the conductors are removed from a terminal.

2. The installation shall be earthed to comply with SANS 10142.

3. The installation shall be bonded to comply with SANS 10142.

5.12 COLOURS

The colours of conductor insulation shall comply with SANS 10142. The colours of conductors for sub-circuits shall as far as possible correspond with the colour of the supply phase. The colours of conductors for wiring to two-way and intermediate switches shall preferably differ from the colour of phase conductors.

5.13 SINGLE-POLE SWITCHES

Single-pole switches shall be connected to the phase conductor and not to the neutral conductor.

5.14 SIZE OF CONDUCTORS

Where conductor sizes are not specified, the following minimum conductor sizes shall be used:

Lighting circuits:	1.5mm² and 2.5mm² copper earth conductor
Socket-outlet circuits:	2.5mm² and 2.5mm² copper earth conductor.
Bell circuits:	1.5mm²
Stove circuits:	10mm² and 6mm² copper earth conductor
Clock circuits:	1.5mm²

5.15 PARTITIONS

1. When wiring is installed in removable partitions, the vertical and/or horizontal metal supports of the walls may be utilised for wiring on condition that:

a) the conductors are not exposed,
b) the metal supports are properly earthed,

c) a separate bare earth continuity conductor is drawn in together with the current carrying conductors and is earthed to the metal parts of the switches and/or the socket-outlets, and
d) conductors are installed in the metal and non-inflammable sections of the partitions.

2. Conductors enclosed in a copper braiding (harness wiring) may be installed in removable partitions. The braiding can be used as earth continuity conductor. The wiring shall be joined to the conduit (or cable) installation by interconnecting the conductor and the earth conductors in a draw-box using suitable ferrules and heat-shrink sleeves or screwed terminals.

6. INSTALLATION OF CABLES

This section covers the installation of cables for the distribution of power in buildings, other structures and in ground for system voltages up to 11 kV, 50 Hz.

6.1 GENERAL

6.1.1 Cable Types

a) Cables with copper conductors shall be used throughout unless otherwise specified or approved.
b) All unarmoured cables shall be installed in metal trunking, sleeves or conduit unless clearly specified to the contrary.
c) XLPE Cables shall only be used in exceptional circumstances with the written permission of the Engineer.

6.1.2 Competence of Personnel

It is a definite requirement that the Contractor shall only employ personnel fully conversant with cable manufacturer's recommendations for joining and terminating cables.

6.2 IDENTIFICATION OF CABLES

1. Cables shall be identified at all terminations by means of punched metallic bands or marked with labels or tags. (Refer also to SANS 10142).
2. The use of PVC tape with punched characters is not acceptable.
3. The identification numbers of cables shall be shown on "as built" drawings of the Installation.

6.3 TRENCHING

6.3.1 General

1. The Contractor shall be responsible for all trenching excavations unless specified to the contrary.
2. The Contractor shall, before trenching commences, familiarise himself with the routes and site conditions and the procedure and order of doing the work shall be planned in conjunction with the general construction programme for other services and building requirements.
3. The Contractor shall acquaint himself with the position of all the existing services such as stormwater pipes, water mains, sewer mains, gas pipes, telephone cables, etc. before any excavations are commenced. For this purpose he shall approach this Engineer's representative, the local municipal authority and any other authority which may be involved, in writing.
4. The Contractor will be held responsible for damage to any existing services brought to his attention by the relevant authorities and shall be responsible for the cost of repairs.

5. The Contractor shall take all the necessary precautions and provide the necessary warning signs and/or lights to ensure that the public and/or employees on site are not endangered.
6. The Contractor shall ensure that the excavations will not endanger existing structures, roads, railways, other site constructions or other property.

6.3.2 Mechanical Excavators

1. Power driven mechanical excavators may be used for trenching operations provided that they are not used in close proximity to other plant, services or other installations likely to be damaged by the use of such machinery.
2. The use of power driven mechanical excavators shall be subject to the approval of the Engineer. Should the excavator produce trenches that exceed the required dimensions, payment based on volumetric excavation rates will be calculated on the required dimensions only.

6.3.3 Blasting

1. No guarantee is given or implied that blasting will not be required.
2. Should blasting be necessary and approved by the Engineer, the Contractor shall obtain the necessary authority from the relevant Government Engineers and Local Authorities. The Contractor shall take full responsibility and observe all conditions and regulations set forth by the above authorities.

6.3.4 Routes

1. Trenches shall connect the points shown on the drawings in a straight line. Any deviations due to obstructions or existing services shall be approved by the Engineer beforehand. Refer also to par. 10.4.
2. The Engineer reserves the right to alter any cable route or portion thereof in advance of cable laying. Payment in respect of any additional or wasted work involved shall be at the documented rates.
3. The removal of obstructions along the cable routes shall be subject to the approval of the Engineer.

6.3.5 Shoring and Waterlogging

1. The Contractor shall provide shoring for use in locations where there is a danger of the sides of the trench collapsing due to waterlogging or other ground conditions. Refer to the The Occupational Health and Safety Act.
2. The strength of shoring must be adequate for site conditions prevailing and the shoring must be braced across the trench.
3. The Contractor shall provide all pumps and equipment required to remove accumulated water from trenches. Water or any other liquid removed shall be disposed of without any nuisance or hazard.

6.3.6 Trenching

1. Trenching shall be programmed in advance and the approved programme shall not be departed from except with the consent of the Engineer.
2. Trenches shall be as straight as possible and shall be excavated to the dimensions indicated in this specification.

3. The bottom of the trench shall be of smooth contour, and shall have no sharp dips or rises which may cause tensile forces in the cable during backfilling.
4. The excavated material shall be placed adjacent to each trench in such a manner as to prevent nuisance, interference or damage to adjacent drains, gateways, trenches, water furrows, other works, properties or traffic. Where this is not possible the excavated materials shall be removed from site and returned for backfilling on completion of cable laying.
5. Surplus material shall be removed from site and disposed of at the cost of the Contractor.
6. Trenches across roads, access ways or footpaths shall not be left open. If cables cannot be laid immediately the Contractor shall install temporary "bridges" or cover plates of sufficient strength to accommodate the traffic concerned.
7. In the event of damage to other services or structures during trenching operations the Contractor shall immediately notify the Engineer and institute repairs.
8. Prior to cable laying the trench shall be inspected thoroughly and all objects likely to cause damage to the cables either during or after laying shall be removed.
9. Where ground conditions are likely to reduce maximum current carrying capacities of cables or where the cables are likely to be subjected to chemical or other damage or electrolytic action, the Engineer shall be notified before installing the cables. The Engineer will advise on the course of action to be taken.
10. Extreme care shall be taken not to disturb surveyor's pegs. These pegs shall not be covered with excavated material. If the surveyor's pegs are disturbed, they shall be replaced by a person qualified to do so.

6.3.7 Dimensions of trenches

1. Cable trenches for one or two cables shall not be less than 300 mm wide and need not be more than 450 mm wide. This dimension shall be valid for the total trench depth.
2. The width shall be increased where more cables are installed to allow for the spacings stipulated in par. 4.2.
3. Where trenches change direction or where cable slack is to be accommodated, the Contractor shall ensure that the requirements of the relevant SANS Specification regarding the bending radii of cables are met when determining trench widths.
4. Trench depths shall be determined in accordance with cable laying depths and bedding thickness.
5. Payment will be made on a volumetric excavation rate calculated on the basis of the given maximum dimensions or the actual dimensions, whichever is the lesser. Refer also to par. 3.2.2 and 3.7.1 above.

6.3.8 Joint Holes

Where cable joints are required to be made in the course of a cable run, a joint hole shall be excavated of sufficient size to enable the cable jointer to work efficiently and unimpeded.

6.3.9 Bedding

1. The bottom of the trench shall be filled across the full width with a 75mm layer of suitable soil sifted through a 6mm mesh and levelled off.
2. Only sandy clay or loam soil with a satisfactory thermal resistivity (not exceeding 1.5°C m/W) may be used for this purpose. Sea or river sand, ash, chalk, peat, clinker or clayey soil shall not be used. The use of crusher sand is acceptable.
3. Where no suitable soil is available on site, the Contractor shall import fill from elsewhere and make all the necessary arrangements to do so. The cost of importing soil for bedding purposes shall be included in the unit rates for excavations.

4. After cable laying a further layer of bedding shall be provided to extend to 75 mm above the cables.
5. The bedding under joints shall be fully consolidated to prevent subsequent settling.

6.3.10 Cable Sleeves

1. Where cables cross under roads, railway tracks, other service areas, etc. and where cables enter buildings, the cables shall be installed in Polyethylene (6mm thickness), asbestos cement pipes or earthenware pipes. Pitch fibre and PVC pipes are not acceptable because of the adhesion that occurs after a period of time between the pipe and the sheathing or outer serving of the cables.
2. Pipes shall be joined in accordance with the manufacturer's instructions.
3. Sleeves shall cross roads and railway tracks at right angles.
4. Sleeves shall have a minimum diameter of 100mm. They shall extend at least 2m beyond the tracks of a railway line or of the outermost tracks where there is more than one line. In the case of roads, the sleeves shall extend at least 1m beyond the road edge or kerb on both sides of the road.
5. All sleeves shall be graded 1:400 for water drainage.
6. Cable sleeves shall be installed to the spacings and depths stated in paragraph 4 below.
7. Galvanised metallic sleeves up to and including 76mm dia. shall be supplied and installed by the contractor.
8. The ends of all sleeves shall be sealed with a non-hardening watertight compound after the installation of cables. All sleeves intended for future use shall likewise be sealed.

6.3.11 Backfilling

1. The Contractor shall not commence with the backfilling of trenches without prior notification to the Engineer so that the cable installation may be inspected. Should the Contractor fail to give a timeous notification, the trenches shall be re-opened at the Contractor's cost. Such an inspection will not be unreasonably delayed.
2. For high voltage cables (1 kV to 11 kV) a coloured plastic marking tape shall be installed 400 mm above the cable. The tape shall be yellow, marked with the words "ELECTRIC CABLE/ELEKTRIESE KABEL" in red. These markings shall not be more than 1m apart from centre to centre.
3. Backfilling shall be undertaken with soil suitable to ensure settling without voids. The maximum allowable diameter of stones present in the backfill material, is 75mm.
4. The Contractor shall have allowed in his tender for the importation of suitable backfill material if required.
5. The backfill shall be compacted in layers of 150mm and sufficient allowance shall be made for final settlement. The Contractor shall maintain the refilled trench at his expense for the duration of the contract. Surplus material shall be removed from site and suitably disposed of.
6. On completion, the surface shall be made good to match the surrounding area.
7. In the case of roadways or paved areas the excavations shall be consolidated to the original density of the surrounding material and the surface finish reinstated.

6.3.12 Cable Markers (for HV cables only, except where otherwise specified)

1. Cable markers shall be provided along all HV cable routes but need only be provided along LV cable routes where specified.
2. Cable markers shall consist of concrete blocks in the shape of truncated pyramids, approx. 300mm high, 150 x 150mm at the top and 250 x 250mm at the bottom.

3. Brass plates shall be cast into the tops of the blocks in such a manner that they cannot be prised loose. The wording "ELECTRIC CABLE/ELEKTRIESE KABEL" shall be stamped on the brass plates as well as direction arrows and the cable voltage rating.
4. Cable markers shall be installed on the surface along all the underground routes and shall project 35 mm above normal ground level unless the projected markers could be a hazard to pedestrian or other traffic in which case they shall be installed flush with the surface.
5. Cable markers shall be installed at the beginning and end of a cable run (e.g. where a cable enters a substation or building), at all changes of direction, above all joints, above cable pipe entries and exits and at intervals not exceeding 50 m along the cable route.
6. The position of cable markers shall be indicated on the "as built" drawings.

6.4 INSTALLATION OF UNDERGROUND CABLES

6.4.1 Installation Depths

1. Cables shall be installed at the following minimum depths below final ground level :
   Up to 11kV : 800mm
2. All cable depth measurements shall be made to the top of the cable when laid directly in ground or to the top of the duct or sleeve where these are provided.
3. The above depths shall apply to the top layer where cables are installed in layers.
4. The Contractor may only deviate from the above depths provided prior authority in writing has been obtained from the Engineer. In this event the cables shall be protected with a suitable concrete covering.
5. The depth of cable pipes or ducts beneath railway lines or roads shall be not less than 1,1 m below the formation level.

6.4.2 Cable Spacings

1. Cables installed in the same trench shall be laid parallel to each other with the following spacings between cables (LV: up to 1 kV; HV: 1 kV to 11 kV):

LV/LV	:	2 cable diameters
LV/HV	:	150mm minimum
HV/HV	:	150mm minimum
LV/HV/PILOT	:	1 cable diameter

2. Where HV and LV cables have to be installed in the same trench, both shall be laid at a depth of 800 mm and then covered with 200mm of soil. The soil shall then be compacted, and then backfilled layer by layer and compacted until the trench is completely backfilled.
3. Cables for telephones, communication systems and other low voltage systems (less than 50 V) shall be separated from power cables by at least 1m. All control or pilot cables without a lead sheath and steel armouring shall be laid at least 300mm from power cables.
4. Cables shall not be buried on top of each other unless layers are specified. The minimum spacing between layers shall be 200mm.

6.4.3 Cable Laying

1. Except where ducts, tunnels or pipes are provided, cables shall be laid directly in the ground.
2. The cable shall be removed from the drum in such a manner that the cable is not subjected to twisting or tension exceeding that stipulated by the cable manufacturer.
3. Cable rollers shall be used as far as possible to run out cables. Rollers shall be spaced so that the length of cable in the trench will be totally suspended during the laying operation and

sufficiently close to prevent undue sagging and the cable from touching the ground. Rollers shall also be placed in the trench in such a manner that they will not readily capsize.

4. Cable rollers shall have no sharp projecting parts liable to damage the cables.
5. Where cables have to be drawn around corners, well-lubricated skid plates shall be used. The skid plates shall be securely fixed between rollers and shall constantly be examined during cable laying operations.
6. Where cables have to be drawn through pipes or ducts, a suitable cable sock shall be used and particular care shall be exercised to avoid abrasion, elongation or distortion of any kind. In the case of oil filled cables, a cable sock may never be used. Special eyes giving access to the interior of the cable, must be utilised.
7. The maximum allowable tension when pulling a cable, is 70 N/mm2 of conductor area.
8. It will be assumed that the price or rates contained in the tender includes for the installation of cables in pipes and ducts or below existing or newly installed services.
9. The Engineer shall be informed timeously of the intention to carry out all cable laying operations to allow an inspection of the works by the Engineer if so required.

6.5 INSTALLATION OF CABLES IN CONCRETE TRENCHES

6.5.1 General

This paragraph covers the installation of cables in building trenches, service ducts, etc. The trenches, ducts, etc. inside buildings will be constructed and installed by others.

6.5.2 Installation

Cables shall be installed in one of the following ways:

a) On horizontal cable trays.
b) On horizontal metal supports with suitable clamps.
c) On vertical cable trays or metal. supports fixed to the side of the trench. The cables shall be clamped in position.

Cables shall not be bunched and laid on the floor of the building trenches.

6.5.3 Covers

The covering of concrete trenches shall as a rule fall outside the scope of the electrical installation. The Contractor shall however be responsible for the cutting or drilling and smoothing of holes for cables through chequer plates, concrete or other coverings as required.

Cables shall enter and exit the trench through sleeves protruding 300mm beyond the covering. The sleeves shall be permanently secured in position and the open space between the cable and sleeves shall be sealed with a non-hardening, watertight compound.

6.5.4 Filled trenches

1. Where specified, floor trenches shall be filled with fine crusher sand (no river or see sand).
2. If a sand filling is specified, the cables shall be fixed to non-corroding supports.
3. Sand-filled trenches other than in substations shall be covered in one of the following ways:
    a. Reinforced concrete covers.
    b. Sand and cement screed.
    c. Removable chequer plates.

4. Method (a) above shall be used where vehicular traffic may be encountered over trenches. Unless otherwise specified allowance for a mass of 2 tons shall be made.

6.6 FIXING OF CABLES TO TRAYS OR STRUCTURES

6.6.1 Installation

Cables may be installed in one of the following ways:

a) On horizontal cable trays.
b) Against vertical cable trays with suitable clamps.
c) Against horizontal or vertical metal supports or brackets with suitable clamps.
d) On clamps which are fixed to the structure.

6.6.2 Clamps

Suitable clamps (cleats) which will secure cables without damage shall be used. Metal clamps or drilled hard wood blocks shall be used. Clamps shall consist of adjustable metal wings which clamp to a metal support, or consist of two halves that are bolted together. The correct clamp size to fit the cable shall be used. Cables of different sizes nay only be fixed by a common clamp when the clamp is specially made to accommodate the various cables.

6.6.3 Spacing of Supports

Two methods of supporting cables are found in practice. The most generally known method is the restrained installation where the distance between supports is small enough to prevent any noticeable sag in the cable. The alternative method is the unrestrained installation where the distance between supports should be great enough to ensure that there will be obvious sag in each span between supports.

6.6.4 Spacing of Supports of Unrestrained Cables

Large single core cables shall always be installed according to this method. Generally, single core cables with conductors exceeding a cross sectional area of 185mm^2 should be supported at spacings in excess of 2m since the sag between supports will safely accommodate any thermal expansion.

Reducing the spacing between the supports to 1,5m or less shall be avoided at all costs, as expansion cannot be taken up by a change of sag and chances of sheath failure become considerable.

6.6.5 Spacing of Supports of Restrained Cables

Additional cleats shall be installed at each bend or offset in the cable run. The maximum distance between supports or cleats for multi-core control cables shall be 20 times the outside diameter of the cable with a maximum spacing of 550mm for unarmoured cables and 30 times the outside diameter of the cable with a maximum spacing of 900mm for armoured cables. Spacing of supports for cables for high voltage lighting shall be in accordance with Table 8 of SANS 10142. A minimum of 20mm ventilation clearance shall be maintained between cables and the wall to which they are cleated.

6.7 GROUPING AND SPACING OF CABLES IN BUILDINGS AND STRUCTURES

6.7.1 Spacing correction factors

Cables shall as a rule be spaced two cable diameters apart, for which no grouping correction factor need be applied.

6.7.2 Cables on Different Levels

Where parallel cable runs are installed at different levels (e.g. on parallel cable trays) and where the spacing of the layers is not specified, a minimum spacing of 300mm shall be maintained.

6.7.3 Single Core Cables

Where single core cables are installed along a three-phase circuit, the cables shall be installed in trefoil formation and bound together at 300mm intervals.

6.7.4 High Voltage Cables

High voltage cables shall be separated from other cables and services throughout the installation and shall as far as possible be installed in separate floor trenches, pipes or metal channels. Where this is not feasible a minimum spacing of 500 mm shall be maintained.

6.7.5 Cables for Other Services

Cables for telephones, communication systems and other low voltage systems (less than 50 V) shall be separated from power cables. In building ducts a physical barrier shall be provided between power cables and cables for other services. Where armoured cables are used for such other services, they shall be installed on separate cable trays or shall otherwise be at least 1m away from power cables. Where unarmoured cables are used for these other services, they shall be installed in separate conduits or metal channels.

Table 1 Spacing for Restrained Cables

Cross-Sectional Area of Cable Conductors (mm^2)	MAXIMUM SPACING OF SUPPORTS (CLEATS) (mm) FOR RESTRAINED CABLES			
	Wire Armoured Cables		Other than Wire Armoured Cables and Unarmoured Cables	
	Horizontal Cable Routes	Vertical Cable Routes	Horizontal Cable Routes	Vertical Cable Routes
1,5	450	750	300	400
2,5	450	750	300	400
4,0	600	750	300	400
6,0	600	750	300	400
10,0	750	900	400	450
16,0	750	1000	400	550
25,0	900	1000	450	550
35,0	900	1000	450	550
Bigger than 35,0	900	1000	450	550

For larger cables the spacing shall be 10 x outside diameter of the cable.

6.8 TERMINATION AND JOINTING OF CABLES

6.8.1 General

1. Cable ends shall be terminated with glands or in cable boxes with the associated accessories such as clamps, shrouds, etc. complying in all respects with the Engineer's quality specifications, Section C.
2. Connection of cables to switchgear shall always be effected in such a way that the various phases, seen from the front of the switchgear will be in the following positions:
    a. No. 1 conductor : left (red) (A)
    b. No. 2 conductor : centre (white) (B)
    c. No. 3 conductor : right (blue) (C)
3. Exposed armouring shall be covered with bitumen-base paint.
4. All cable ends shall be supplied with the necessary earth connection.
5. A channel or other approved means of support shall be provided to remove mechanical stress from the glands.
6. Cable cores shall be marked with heat-shrunk sleeves where necessary to identify the phases. Refer to SANS 10142.
7. The current-carrying capacity and breakdown voltage of the cable end shall be the same as for the complete cable.
8. Cables shall be terminated in accordance with the recommendations laid down by the manufacturers of the cables and glands employed.

6.8.2 Termination of Paper-Insulated Cables

1. Heat-shrinkable materials shall only be used in exceptional circumstances with the written permission of the Engineer.
2. Before terminating or jointing paper-insulated cables, a test to establish the presence of moisture must be carried out.
3. The following procedure may be followed:

a. Place an adequate quantity of cable impregnating oil in a suitable container and heat up to 130 C ± 5 C.
b. Cut a small length (± 300mm) of the cable concerned and remove the armouring and sheath, taking care not to handle the dielectric in any way.
c. Dip a section of the outer insulating impregnated paper (belt paper) in the heated oil, taking care not to contaminate the tapes with moisture from the hands. If frothing appears on the surface of the oil, this is a clear indication of the presence of moisture in the paper.
d. The same procedure should then be repeated on the insulating impregnated paper around the conductors (especially those layers closest to the conductors). Frothing will also indicate the presence of moisture.
e. Should only a small number of bubbles appear on the surface of the oil, this is an indication of air bubbles on the paper and not moisture since the presence of moisture will result in a series of bubbles rising to the surface of the oil for a number of seconds, until all moisture has been removed.

4. The armouring shall be bonded to the main earth bar of the switchgear or transformer, but the bond shall be easily removable for testing purposes.
5. The lead sheath shall be wiped against the conical wiping gland.
6. All cut cable ends which will be exposed to the atmosphere for more than two hours shall be sealed and wiped to prevent penetration of moisture.

6.8.3 Termination of XLPE Cables

1. These cables shall only be used in exceptional circumstances and only with the written permission of the Engineer.
2. The copper tapes of the earth screen on the cable shall be bonded to the main earth bar of the switchgear or transformer, but the bond shall be easily removable for testing purposes.
3. The cable shall be firmly secured on the switchgear by means of a clamp to prevent mechanical stress on the cable and terminations.

6.8.4 Termination of PVC-insulated Cables

1. The glands shall be fitted in accordance with the cable and gland manufacturers instructions.
2. The correct size and type of gland shall be used for the particular cable and application.

6.8.5 Connection of Cable Conductors

1. Suitable lugs shall be used, preferably solidly sweated to the cable conductor ends. Lugs may be crimped, using mechanical or pneumatic tools designed for this purpose, on condition that evidence is submitted that the method used complies with the performance requirements of BS 4579, Part 1 : "COMPRESSION JOINTS IN COPPER".
2. Contact surfaces shall be thoroughly cleaned and smoothed and fixing bolts shall match the hole size of the lug.
3. Cables that are connected to clamp type terminals where the clamping screws are not in direct contact with the conductor, need not be lugged but the correct terminal size shall be used.
4. Ferrules shall be used as far as possible where cable conductors are connected directly to equipment with screws against the conductor strands.
5. When cutting away insulation from cable conductors to fit into lugs, care shall be taken that no strands are left exposed. Under no circumstances may any of the conductor strands be cut away to fit into lugs.

6.8.6 Joints

1. Joints in cable runs will not be allowed unless specified in the Detail Technical Specification or authorised by the Engineer.
2. Jointing shall be carried out strictly in accordance with the manufacturer's instructions and by personnel competent in jointing the types of cables used.
3. During outdoor jointing operations, the joint bays shall be adequately covered by tents of waterproof material suitably supported. Where necessary a trench shall be excavated around the bay to prevent the ingress of moisture. The sides of the hole shall be draped with small tarpaulin or plastic sheeting to prevent loose earth from falling in during jointing operations.
4. The joint shall not impair the anti-electrolysis characteristics of the cable.
5. The Contractor shall notify the Engineer timeously of the day on which jointing is to be carried out in order than an inspection may be arranged if so required. Any cable joint not inspected by the Engineer because of insufficient notice being given, shall be opened for inspection and redone at the discretion of the Engineer at the cost of the contractor.
6. LV cable joints shall be of the epoxy-resin type.
7. Joints shall be fully water and air tight and shall be free of voids and air pockets.
8. The crossing of cores in joints will not be permitted under any circumstances.

6.9 TESTING

1. Each cable shall be tested after installation in accordance SANS 1507 (up to 1 kV) and SANS 97 (up to 11 kV) as well as the requirements of the Local and Supply Authorities.
2. LV Cables shall be tested by means of a suitable megger at 1 kV and the insulation resistance shall be tabulated and certified.

Table 2

Cable Rating (kV)	TEST VOLTAGE (Applied for 15 minutes) (kV)				
	Paper-insulated cables				XLPE-insulated cables
	Between conductors		Conductors to sheath		Conductors to screen
	AC (r.m.s)	DC	AC (r.m.s)	DC	DC
6,6	12	18	12	18	11
11	20	30	20	30	18

* High Voltage test with DC to 2kV for 1 minute only. Discharge cable slowly via discharge stick (1 minute). Clamp all conductors to earth for 24 hours.

3. HV Cables shall be high voltage tested in accordance with Table B6.2 and the exact leakage current shall be tabulated and certified.
4. The Contractor shall make all arrangements, pay all fees and provide all equipment for these tests. The cost of testing shall have been included in the tender price.
5. The Contractor shall notify the Engineer timeously so that a representative of the Engineer may witness the tests.
6. On completion of the tests on any cable, the Contractor shall without delay, submit three copies of the certified Test Reports to the Engineer.

6.10 MEASUREMENTS

1. All measurements for payments shall be made jointly by the representatives of the Engineer and the Contractor and the Contractor shall obtain the signature of the Engineer's representative including approval of such measurements.
2. No allowance shall be made for the breaking away of the trench sides, other earth movements or for trenches excavated in excess of the stipulated dimensions. Refer also to par. 3.7.5 above.
3. The classification shall be as follows:
   Very hard rock shall mean rock that can only be excavated by means of explosives.
   Hard rock shall mean granite, quartzitic sandstone, slate and rock of similar or greater hardness, solid shale and boulders in general requiring the use of jack hammers and other mechanical means of excavations.
   Soft rock and earth shall mean rock and earth that can be loosened and removed by hand-pick and shovel.
4. Where very hard rock and hard rock are encountered, the prior approval of the Engineer shall be obtained before proceeding with the excavation. This requirement is stipulated in order to afford the Engineer the opportunity to determine whether an alternative cable route is justified.
5. All cable lengths indicated in the Detail Technical Specification and/or shown in the cable route drawings shall be regarded as estimates and are given for tendering purposes only. The successful tenderer shall measure actual cable lengths on site before ordering.
6. The final price for the supply and installation of all cables will be adjusted, on the basis of the actual lengths of installed cables, in accordance with the unit rates quoted at the time of tendering. Cable lengths shall be measured on site to the nearest 500mm for this purpose and surplus cable will not be paid for.

6.11 COMPLETION

1. The Engineer reserves the right to inspect the installation at any stage during the course of construction. Such inspections will however not deem the portions inspected as being complete or accepted and the Contractor shall remain responsible for completing the installation fully in accordance with the Contract Documents.
2. The Contractor shall carry out a final "as built" survey of the cable routes and present to the Engineer "as built" route plans of the complete installation. The following information shall be reflected on the plans or submitted as separate schedules with the plans :
   a. Overall length of each cable.
   b. Locations of all joints (if any) in relation to permanent reference points. Dimensions shall be shown and the method of triangulation i.e. two dimensions to each joint, shall be used.
   c. Identification of each cable.
3. The works will be deemed to be incomplete until all tests have been conducted successfully and all "as built" drawings and schedules have been handed to the Engineer.

7. INSTALLATION OF LIGHT SWITCHES AND SOCKET-OUTLETS

7.1 GENERAL

7.1.1 Position of Outlets

Switches and socket-outlets shall be accurately positioned in accordance with the drawings. It is the Contractor's responsibility to ensure that all outlets are installed level and square, at the correct height from the floor and at the correct position relative to building lines and equipment positions

as specified. It is the Contractor's responsibility to determine the correct final floor level and ceiling level in conjunction with the Main Contractor.

7.1.2 Cover Plates

All switches and socket-outlets shall be fitted with standard metal cover plates. The colour of cover plates shall be as specified or shall otherwise match the surrounding finishes as closely as possible. Unless specified to the contrary, ivory cover plates shall be installed on painted walls. Cover plates in the same area shall have the same colour. Flush mounted cover plates shall overlap the draw-box and edges of the recess. Cover plates shall under no circumstances be cut unless authorised by the Engineer.

7.1.3 Escutcheon Plates

Where flush mounted switches or socket-outlets are installed in special wall finishes e.g. wood or board panels, acoustic tiles or other cladding, etc. and where the wall finishes must be cut to accommodate the switch, it may be necessary to fix an escutcheon plate to the wall to cover the cut-outs. The escutcheon plate shall fit closely around the outlet boxes and shall be fixed independently of the boxes and cover plates. Bevelled cover plates shall be fixed to the outlet boxes and shall fit firmly against the escutcheon plate.

7.1.4 Appearance

The sides of adjacent switches, plugs, push-buttons etc. shall be parallel or perpendicular to each other and uniformly spaced. A common escutcheon plate shall be placed around flush mounted outlets and accessories where the standard cover plates do not cover the cut-outs in the finishes.

7.1.5 Deep Boxes

Where switch or socket-outlet boxes have been set deep, spiral type steel wire spacers shall be used to fix the yoke of the switch or socket.

7.2 INSTALLATION OF SOCKET-OUTLETS

7.2.1 Mounting Height

Unless specified to the contrary, socket-outlets shall be installed at the following heights above finished floor level, measured to the centre of the outlet:

Flush mounted in general:	300mm
Showrooms, shops, servants quarters:	1,4m
Domestic kitchens, tea kitchens:	1,05m
Commercial kitchens:	1,4m
Factories, workshops, garages:	1,4m

7.2.2 Walls

In cases where socket-outlets must be mounted at a nominal height of 300mm and where the lower portion of the wall consists of face bricks and the upper portion is plastered, the outlets shall be installed in the plastered portion of the wall. If however the plastered portion of the wall commences 500mm or more above floor level the outlets shall be installed in the face bricks. Where a wall has different surface finishes the outlets shall be installed within the same finish and not in

the dividing lines between the different wall finishes. All outlets shall be installed at least 150mm away from door frames.

7.3 INSTALLATION OF LIGHT SWITCHES

7.3.1 Mounting

Light switches shall be installed 1.4m above finished floor level unless specified to the contrary. For paraplegic installations the height shall be 1.0m above finished floor level. Mounting heights given shall be measured from the finished floor level to the centre of the switch. All single switches shall be installed with the long side of the toggle vertical.

7.3.2 Doors

Unless specified to the contrary, switches adjacent to doors shall be installed on the side containing the lock. If the position of the lock is not shown on the drawings, the position shall be verified before the switch-box is installed. Switch boxes in brick or concrete walls shall be installed 150mm from the door frame. Light switches installed in partitions or door frames shall be of the type designed for that purpose.

7.3.3 Walls

Where the lower portion of a wall is face brick and the upper portion plastered, light switches shall be installed wholly in the plaster provided that the lower edge of the plaster is not higher than 1,6m above the finished floor level. In general where different wall finishes are used in the same area. Switches shall be installed within the same finish and not on the dividing lines between finishes.

7.3.4 Partitions

Light switches installed in partitions shall preferably be of the type designed to be accommodated in the partition construction. Switches installed in the metal supports do not require switch boxes. Switches may not be flush mounted in partition walls without switch boxes.

7.3.5 Watertight Switches

Switches that are exposed to the weather or are installed in damp areas, shall be of the watertight type.

7.3.6 Multiple Switches

Where several switches are required in one position, multi-lever switches in a common switch box shall be provided wherever possible. All circuits wired into this box shall be on the same phase in order that voltages in excess of 250 V are not present in the box. Where it is not possible or practical to do this, barriers shall be installed and a label shall be prominently displayed within the box stating that voltages in excess of 250 V are present.

8. PHOTO-ELECTRIC DAYLIGHT SENSITIVE SWITCH FOR OUTSIDE LIGHTING

8.1 INSTALLATION

1. The outside lighting of each individual building shall be controlled by photo-electric daylight sensitive switches.
2. The positions of the switches as indicated on the drawings are provisional and the exact positions shall be confirmed with the representative of the Engineer on site.
3. Individual outside lighting circuits on a building may be connected directly to the daylight sensitive switch.
4. Where two or more lighting circuits are to be controlled by a single daylight sensitive switch, a contactor actuated by the unit shall be provided in the switchboard.
5. A by-pass switch enabling the lights to be turned on at any time, shall be provided.

8.2 CONSTRUCTION

1. The unit shall comprise a photo cell, thermal actuator and change-over switch. The cover of the unit shall be manufactured from a tough, durable material providing protection against tampering. The cover shall have good weathering properties. It shall be ultraviolet-resistant and shall not deteriorate when exposed to sunlight for prolonged periods.
2. The unit shall be of the wall mounting type and shall be supplied complete with a suitable bracket.
3. The operational level shall be factory preset for "ON" at a light level of approximately 54 lux and "OFF" at approximately 108 lux. Voltage variations shall not materially affect the operational levels.
4. A time delay of not less than 15 seconds shall be provided to prevent the unit from functioning due to short period changes in illumination.
5. 2.5 The unit shall be effectively safeguarded against voltage surges by means of a suitable surge protector which shall preferably form an integral part of the unit.

9. INSTALLATION OF LUMINAIRES

9.1 POSITIONS

The mounting positions of luminaries shall be verified on site. All luminaries shall be placed symmetrically with respect to ceiling panels, battens, beams, columns or other architectural features of the space unless otherwise indicated. The layout as shown in the Documents shall generally be adhered to but any discrepancies or clashes with structural or other features must be referred to the Engineer, before commencing erection of the installation.

9.2 COVER PLATES

Cover plates shall be fitted over all draw-boxes and outlets intended for luminaries that are not covered by the luminaire's canopy, lamp-holder, ceiling rose or similar accessories.

9.3 FIXING TO DRAW-BOXES

Where an outlet box or draw-box provides the necessary support for a luminaries, all luminaries with the exception of fluorescent luminaries mounted against ceilings, shall be fixed directly to the box. Fluorescent luminaries and luminaries with a mass in excess of 10kg shall however be suspended independently of the outlet box.

9.4 HANGERS AND SUPPORTS

Where provision has not been made for the fixing of luminaries, the Contractor shall supply the necessary supports, hangers, conduit extensions, angle brackets or any other fixing method approved by the Engineer.

9.5 SUSPENDED LUMINAIRES

The necessary hangers shall be provided where luminaries which are of the non-suspension type have to be fixed below false ceilings or roof slabs. The use of 20mm conduits fixed to the roof slab or ceiling is preferred. Provision shall be made for adjustments to enable the levelling of luminaries. Suspended conduits shall be fixed to the ceiling by means of screwed dome lids, bolts and nuts. Ball-and-spigot type domelids shall be used where conduit lengths exceed 600mm. Wiring shall be installed in the conduit hangers.

9.6 SUSPENDED WIRING CHANNELS

Luminaries (especially fluorescent luminaries) may also be suspended from ceilings by means of suspended metal channels. The metal channel may be supported by conduits or threaded rods. Should metal rods be utilised, these shall be screwed to anchor bolts fixed in the roof slab. Wiring shall either be installed in conduits fixed to the metal channel or in the metal channels and covered with a suitable cover plate. Purpose-made clamps shall be used to fix the luminaries to the cable channel.

9.7 CEILING BATTENS

Where wooden blocks are used to suspend luminaries, ceiling battens shall not be cut. The wooden blocks shall be cut to fit around battens and shall be screwed to the ceiling. Battens may however be cut where fluorescent or incandescent luminaries with metal canopies have to be installed against a false ceiling.

9.8 GLASS-BOWL LUMINAIRES

Unless specified to the contrary, suspended glass-bowl luminaries shall be installed with the underside at least 2.1m above finished floor level.

9.9 FLUORESCENT LUMINAIRES FIXED TO CONCRETE SLABS

Fluorescent luminaries to be installed directly against concrete slabs or walls shall be securely fixed to the outlet box and at two additional points. Shot-fired fixings are not acceptable. Where approved, fluorescent luminaries may be installed against metal wiring channels in which the wiring

is housed. The channel fixing may in this case be shot-fired. Purpose-made fluorescent fixing adaptors shall be used to fix luminaries to cable channels.

9.10 FLUORESCENT LUMINAIRES FIXED TO CEILINGS

1. In all cases where luminaries are fixed to ceilings, the Contractor shall ensure that the ceiling is capable of carrying the weight of the luminaries before commencing installation. Should any doubt exist in this regard, the matter shall be referred to the Engineer.
2. In cases where the weight of the luminaire is not carried by the ceiling but by a support or other suspension method, provision shall be made to prevent relative movement between the ceiling and luminaire, ceiling rose or connection point.
3. Surface mounted fluorescent luminaries shall fit firmly against the ceiling brandering without leaving gaps between luminaire and ceiling. The luminaire shall be fixed directly to the ceiling by means of brass plated round-head wood screws and washers.
4. In the case of tiled ceilings with exposed or concealed T-section supports, surface mounted luminaries shall be fixed only to the tiles by means of butterfly screws or bolts with nuts and washers. The tiles shall be suitably reinforced.
5. Luminaries may alternatively be fixed to metal cross-pieces resting in the ceiling tees.
6. Drilling of holes in ceiling tees to support luminaries will not be allowed.
7. Luminaries shall be fixed in neat relation to the ceiling lay-out.

9.11 CONTINUOUS ROWS OF LUMINAIRES

In cases where fluorescent luminaries are installed in tandem, only one connection outlet need be supplied per circuit. All luminaries shall be coupled to one another by means of nipples or brass bushes and locknuts to ensure that wiring is not exposed and that earth continuity is maintained. Luminaries on the same circuit may be wired through the channel formed by the luminaire bodies. In this case silicon-rubber insulated conductors shall be used and internal connections shall be made at porcelain terminal blocks. "SCREW-IT" or similar connectors may only be used if prior permission is obtained from the Engineer. The wiring for any other circuits or outlets, even though these may be in the same row, may not be installed through the luminaire bodies. The Contractor shall ensure that continuous rows are straight and parallel to the relevant building lines.

9.12 RECESSED LUMINAIRES

1. Where recessed luminaries are specified, the Contractor shall maintain close liaison with the ceiling Contractor. In the case of tiled ceilings, the luminaries shall preferably be installed while the metal supports are being installed and before the tiles are placed in position. The Electrical Contractor shall be responsible for the co-ordination of the cutting of ceiling tiles with the other contractors concerned.
2. All mounting rings and other accessories shall fit closely into cut-outs to ensure a proper finish.
3. In all false ceilings where wiring channels are used, recessed luminaries shall be connected to the wiring channels by means of un-switched 5A socket-outlets.
4. The following requirements shall be adhered to:
   a) Socket-outlets used shall comply with the Engineer's quality specification for "UNSWITCHED AND SWITCHED SOCKET-OUTLETS", par. 4 of Section 11 and shall be of 5 A minimum rating.
   b) The connector cord attached to the luminaire may not exceed 3m in length and shall consist of 1.5mm^2 minimum, 3-core, PVC-insulated flexible cord.

c) The 5A socket-outlets shall be positioned such that they are not more than 600mm above the false ceiling.

9.13 SPECIAL CEILINGS

In cases where special ceilings e.g. aluminium strips, decorative glass, metal leaves, etc. are to be installed, the Contractor and the Manufacturer of the ceiling shall agree upon the method of fixing of luminaries in the ceiling.

9.14 BULKHEAD LUMINAIRES

Surface mounted bulkhead luminaries shall not be screwed directly to conduit ends. The conduit shall terminate in a round draw-box at the top or rear of the luminaire. The PVC-insulated conductors shall terminate in a porcelain terminal strip in the draw-box. Silicon-rubber-insulated conductors shall be installed from the terminal strip to the luminaire lamp-holder. "SCREW-IT" or similar connectors may only be used if prior permission is obtained from the Engineer.

9.15 TYPE OF CONDUCTOR

PVC-insulated conductors, unless protected by an approved heat-resistant sheathing, shall not be used where the temperature of the insulation is likely to exceed 70°C. In unventilated luminaries or luminaries capable of housing incandescent lamps over 60W, the interconnecting wiring from the lamp-holder to the circuit wiring shall consist of silicon-rubber insulated conductors. Silicon-rubber insulated conductors shall be used exclusively in the case of high bay fittings. Refer also to the provisions of SANS 10142.

9.16 WIRING OF LAMPHOLDERS

The central terminal of Edison Screw (E.S. type) LAMP-HOLDERS shall be connected to the phase conductor and the screwed housing to the neutral conductor.

10. CONNECTIONS TO EQUIPMENT

10.1 GENERAL

This section covers the final electrical connections to switchboards and various equipment in electrical installations under normal environmental conditions for system voltages up to 600V. Refer also to the Engineer's standard specifications for "WIRING", Section 5 and "INSTALLATION OF CABLES", Section 6.

10.2 CONNECTIONS TO SWITCHBOARDS

10.2.1 Conduit Entries

1. Where sufficient space for conduit entries as well as adequate space for future conduit entries is available, conduits may be terminated directly on the switchboard.
2. Alternatively, conduits connected to switchboards shall terminate in a common fabricated sheet steel draw-box installed in the vicinity of the switchboard. In open roof spaces this draw-box shall be placed in a roof space of not less than 900mm clearance.

3. Lighting and socket-outlet circuits may be separately grouped in common conduits or metal ducts (trunking) from the distribution board to the draw-box. The drawbox shall be of sheet steel with a minimum thickness of 1,6mm and shall be fitted with a removable cover plate.

10.2.2 Flush Mounted Switchboards

Where flush mounted switchboards are required, the recessed switchboard tray shall be built into the brick or concrete wall. All conduits from the floor or roof shall be fully recessed and shall be bonded directly to the tray by means of locknuts on both sides and the ends of the conduits fitted with a brass bush.

10.2.3 Surface Mounted Switchboards

Where surface mounted switchboards are specified but where the conduits can be fully recessed, the conduit shall be connected to a recessed connection box installed behind the switchboard. An opening with the same dimensions as the connection box shall be cut in the back of the switchboard and fitted with a suitable grommet.

10.2.4 Spare Conduits

Where conduits from a switchboard run into a false ceiling space above the board, a minimum of two 25mm and two 20mm spare conduits shall be installed into the ceiling space immediately above the board.

10.2.5 Cable Connections

1. Where underground cables are to be connected to switchboards, it shall be the responsibility of the Contractor to ensure that metal, earthenware, asbestos-cement or other approved sleeves are built in correctly to enable installation and connection of the cable to the switchboard.
2. PVC or pitch fibre sleeves are not acceptable - refer to par. 3.10 of the Engineer's standard specification for "INSTALLATION OF CABLES", Section 6.
3. Sleeves shall tie installed with a fall from inside to outside of the building to facilitate drainage. The sleeves shall be sealed with a non-hardening compound after installation of the cables to render the installation vermin proof and waterproof.
4. A metal cable channel with removable metal cover plate shall be installed by the Contractor and shall extend from the switchboard to the floor or into the ceiling void as required. The channel shall coincide with the position of sleeves. The channel shall be flush mounted except in the case of surface mounted switchboards and then only with the permission of the Engineer's representative.
5. The cable channel shall be large enough to permit the installation of cable glands and future cables, particularly where spare sleeves have been provided.
6. The colour of the channel cover shall match that of the associated switchboard.

10.2.6 Cable Trenches

Where cables in floor trenches have to be connected to wall mounted switchboards, approved sleeves or conduits shall be installed from the side of the trench to the bottom of the switchboard. These sleeves shall be positioned and fixed before the concrete is cast.

10.3 CONNECTIONS TO MOTOR DRIVEN EQUIPMENT.

1. An isolator or starter containing an isolator shall be installed within 2m of motor driven equipment. The requirements of SANS 10142 shall be met. If this isolator cannot be installed on a wall, switchboard or other suitable place, an approved free-standing pedestal shall be provided. The pedestal shall be 1m high and outside normal walkways, access routes, etc.
2. The connection to the equipment shall be carried out as follows:
    a. Metal reinforced plastic or PVC-covered flexible metal conduits with individual conductors or a multi-core PVC insulated cable and separate bare earth conductor installed inside the conduit may be used. The flexible conduit shall not exceed 600mm. Screwed conduit shall be used from the end of the flexible conduit to the isolator and/or starter. Refer to the Engineer's standard specification for "FLEXIBLE CONDUIT", Section 1, par. 5.
    b. Multi-core armoured PVC- or rubber-insulated cable and earth conductor. The installation and termination of the cables shall comply with the Engineer's specification for "INSTALLATION OF CABLES, Section 6.
    c. Cables and flexible conduits shall be provided with sufficient slack to allow positional adjustment of the equipment.

10.4 CONNECTIONS TO WATER HEATERS

1. Each water heater shall be connected to a separate circuit with a separate earth conductor.
2. The conduit from the switchboard to the water heater shall terminate in a draw-box within 1 m of the water heater terminals. The connection from the draw-box shall be conductors in conduit or PVC-insulated cable. Only in instances where heaters are mounted out of normal reach may flexible conduit and round boxes with dome lids be used for the final connection.
3. The mounting of the water heater and the provision of the water connections will be undertaken by others. The Contractor shall ensure that the elements and thermostats can easily be replaced.
4. Before testing a water heater, the Contractor shall confirm with the Plumbing Contractor that the unit is filled with water.
5. Unless otherwise specified in the Detail Technical Specification, the wiring of hot water heater circuits not exceeding 4 kW shall consist of 4mm^2 conductors and 2,5mm^2 earth conductor.
6. Unless it is specified that isolators for water heaters shall be provided in the switchboard, a local isolator shall be provided for each water heater. In the case of water heaters not exceeding 4 kW, a 30 A double-pole metal-clad isolator shall be surface mounted over the flush conduit outlet box.

10.5 CONNECTIONS TO HEATERS, FANS AND AIRCONDITIONING UNITS

10.5.1 Isolators

A flush mounted suitably rated double-pole isolator shall be provided within 1m of the unit. Where the equipment is mounted out of reach, the isolator shall be installed at 1,5m above floor level. Only where units are mounted in easily accessible positions and where an isolating switch is incorporated in the unit, may this isolator be omitted. Where flush isolators are used, flush conduit shall be installed to link with the equipment outlet point. Flexible cords of sufficient rating may be used for the final connection to the equipment.

10.5.2 Wiring

The minimum conductor size to be used shall be 4 mm^2. Each fan, heater or air-conditioning unit shall be on a separate circuit.

10.5.3 Surface Mounted Equipment

1. Connections to surface mounted equipment shall consist of a draw-box located in the vicinity of the terminals of the unit. In workshops and industrial areas the connections shall be made by means of flexible conduit connected to dome lids on the draw-box. Conductors shall be connected directly to the unit.
2. In non-industrial applications PVC-insulated 3-core flexible cables may be used for the connection.
3. Where flexible cables are used, a bush shall be provided at the rear of the unit for cable entry and a bush and clamp (or gripper gland) at the draw-box. The clamp shall tightly grip the outer insulation of the cable to prevent tension on the connections between cable and conductors in the draw-box.
4. Where heaters or air-conditioning units are situated above power skirting, the isolator shall be installed in the power skirting and the flexible cable or cord to the unit shall be installed in the power skirting through a gripper or compression gland. The cable shall be made as short as practical and shall be neatly saddled to the surface of the wall.

10.6 CONNECTIONS TO COOKING APPLIANCES

1. Unless specified to the contrary, the circuit connection to each cooking appliance shall consist of:
   a) 2x10mm^2 PVC-insulated conductors and 6mm^2 bare copper earth conductor for single phase connections, or
   b) 4x4mm^2 PVC-insulated conductors and 2.5mm^2 bare copper earth conductor for three phase connections.
2. A 60A double pole or 30A triple pole micro-gap isolator flush mounted in a wall outlet box, shall be installed 1.5m above floor level to the left or right of the appliance in accordance with SANS 10142. A white baked enamel cover plate shall be provided, situated wholly on the tiled or plastered surface as applicable.
3. The conduit shall terminate 450mm above floor level behind the appliance position. The conduit end shall be approximately 75mm long and shall face downwards. Connections from the conduit end to the appliance shall be installed in accordance with SANS 10142. Sufficient slack shall be provided in the flexible connection to move the appliance 600mm away from its normal position for cleaning or maintenance.
4. Alternatively a 45A, 3-pin socket-outlet may be mounted on a round draw-box 450mm above floor level. The connection to the appliance shall consist of a plug and 10mm^2, rubber-insulated and sheathed cable in accordance with SANS 1520. The cable shall be long enough to enable the appliance to be moved 600mm from its normal position for cleaning or maintenance.
   a) Crimped or soldered lugs shall be provided on all conductors intended for connection to cooking appliances.
5. Each appliance shall be connected to a separate circuit. A separate earth wire shall be provided for each appliance.

11. EARTHING

This section covers the earthing of electrical installations in buildings or other structures. The total earthing system of any electrical installation shall be in complete accordance with SANS 10142.

11.1 GENERAL RECOMMENDATIONS ON THE PRACTICAL INSTALLATION OF EARTH ELECTRODES

11.1.1 Requirements of an Effective Earth

1. An effective earth must prevent dangerous over voltages arising between metallic structures, frames, supports or enclosures of electrical equipment and the ground during fault conditions.
2. An effective earth must be able to permit fault currents of sufficient magnitude to flow so as to operate protective devices to isolate the fault before damage can occur.
3. The ohmic resistance of an effective earth must be low enough to ensure that the step potential on the ground in the vicinity of the earthing point is within safe limits under fault conditions i.e. a voltage gradient not exceeding 40V/m for fault durations exceeding 1s.

11.1.2 Types of Earth Electrodes

Three types of earth electrodes are suitable:

Trench Earths

Trench earths comprise a bare copper or galvanised iron conductor laid at a minimum of 800mm below ground level, usually when underground cables are installed. This type of earth electrode provides a relatively large contact area between electrode and surrounding ground, makes contact with a variety of types of soil and soils of varying moisture content en route and is economical to install.

Spike Earths

Spike earths comprise rods of bare copper, copper-coated steel, stainless steel or galvanised steel designed for the purpose of penetrating ground to depths of up to several metres. A low resistance earth may sometimes be obtained by driving multiple spikes at some distance from each other in order to provide parallel paths.

In hard or rocky ground, it is usually necessary to drill holes into which earth spikes are inserted and then packed with soft soil.

Foundation Earths

Foundation earths comprise bare copper or galvanised iron conductors laid under the foundations of buildings, miniature substations, distribution pillars, bases of wooden, concrete or steel poles and structures. Because soil under foundations usually retains moisture, foundation earths are located to take advantage of this favourable condition. Furthermore, they are economical to install.

11.1.3 Materials for Earth Electrodes

1. Bare copper, either in stranded, strip or rod form, is considered the most suitable general purpose material for earth electrodes. Its main disadvantage is its cost and susceptibility to theft.
2. Bare galvanised iron and steel, either in stranded, strip or rod form, has a satisfactory record of survival in non-aggressive soils and is more economical than copper.
3. Bare aluminium is unsuitable as electrode material.

11.1.4 Corrosion

Because galvanised ferrous metals corrode sacrificially to copper, galvanised iron and steel electrodes should not be buried in close proximity to bare copper.

11.2 TECHNICAL REQUIREMENTS OF NEUTRAL EARTHING

The following relevant aspects have been extracted from the "AMEU CODE OF PRACTICE FOR THE APPLICATION OF NEUTRAL EARTHING ON LOW VOLTAGE DISTRIBUTION SYSTEMS."
The following relevant aspects have been extracted from the "AMEU CODE OF PRACTICE FOR THE APPLICATION OF NEUTRAL EARTHING ON LOW VOLTAGE DISTRIBUTION SYSTEMS."

11.2.1 Distribution Systems

Multiple Earthed Neutral (MEN) and Protective Multiple Earthing (PME) systems.

Distribution equipment associated with transformer substations that are either ground mounted or pole mounted and fed by underground cable or overhead line, with or without an earth continuity conductor, (ECC), should be installed, connected and earthed in accordance with the following requirements:

a) Where the resistance to earth of the HV equipment earth is 1 ohm or less, it is permissible to earth the LV neutral to the HV earth electrode.
b) Where the HV equipment earth exceeds 1 ohm the LV neutral shall be earthed at a minimum distance of 6m from the HV equipment earth (i.e. 6m from the HV electrode/s and also from any earthed metalwork connected thereto).
c) Notwithstanding the requirements of (a) above, where transformers are associated with HV overhead lines, it is considered good practice to separate the HV and LV earth electrodes. The minimum earth separation should be 6m or one LV span.
d) The overall resistance to earth of the neutral of an LV distributor or distribution system must not exceed 10 ohms.
e) The LV neutral may be connected to other supply neutrals, earth electrodes, cable sheaths and armouring and these connections used to obtain the required earthing value of 10 ohms or less as specified in par. (d) above.
f) The neutral of underground and overhead LV distributors must be earthed at the remote ends of each distributor.
g) Where the overall resistance to earth of the neutral of the distribution system exceeds 10 OHMS, the neutral shall be earthed at intermediate positions on the distributor/s to reduce its resistance to earth to below this limit.
h) The cross-sectional area of the neutral of all LV distributors must not be less than that of a phase conductor.
i) No circuit-breakers, isolators, fuses, switches or removable links shall be installed in the neutral between the transformer star point and the remote end of any LV distributor or service connection.
j) All metallic sheathing and armouring of cables and all metalwork associated with meter cabinets, fuse pillars, etc., supporting or enclosing LV cables shall be bonded to the distributor neutral conductor.
k) Where a Separate Neutral Earth (SNE) cable is part of an MEN or PME system, the armouring and/or metallic sheath and any ECC shall be bonded to the neutral at the supply end of the cable.
l) To ensure the integrity of the neutral, it is recommended that all connections and joints on or to overhead line conductors be made by compression fittings or, alternatively double bolted connectors.

m) MEN or PME may be applied to any single LV distributor without alterations to other LV distributors supplied from the same transformer.

11.2.2 Protective Neutral Bonding (PNB) System

Since the neutral is earthed at one point only, the question of multiple earthing does not arise and there is therefore no necessity to meet the MEN/PME technical requirements.

11.2.3 Service Connections

2.3.1 MEN System

The following conditions apply to consumers' service connections as well as service connections to traffic signals, road signs, street lighting and other power-consuming equipment installed in public places:

a) All service connections must be by means of cable with an insulated phase, an insulated neutral conductor and an ECC.
b) A single phase service connection comprises a live, a neutral and an ECC.
c) A polyphase service connection comprises two or three phase conductors, a neutral and an ECC.
d) The service neutral and ECC must be solidly and separately connected to the distributor neutral at the tee-off point.
e) The consumer's earthing lead is connected to the Supply Authority's earth terminal which is in turn connected to the ECC in the service cable at the consumer's supply point.
f) The neutral must not be connected to earth at the consumer's supply point.
g) If required by the Supply Authority, an earth electrode must be installed at the consumer's supply point.
h) In a service connection to traffic signals, street light and other power-consuming equipment installed in public places, such equipment is earthed to the ECC of the service connection.

2.3.2 PME System

a) All service connections must be by means of a cable with an insulated phase and an insulated neutral conductor.
b) A single phase service comprises a live conductor and a neutral.
c) A polyphase service connection comprises two or three phase conductors and a neutral.
d) The consumer's earthing lead is connected to the supplier's neutral and to a mandatory earth electrode at the consumer's supply point.
e) A label must be attached at the consumers supply point on his premises indicating that the installation is part of a PME system.

Note: It is not recommended that the PME system be applied to supply traffic signals, street signs or other power-consuming equipment installed in public places, because the PME system is inherently unsafe under "broken-neutral" conditions.

11.3 SUBSTATION EARTHING

In order to comply with the requirements of par. 1 and 2 above, an earth resistivity measurement shall be undertaken at the site of a new substation or miniature substation, preferably be a specialist firm. The contractor shall then submit to the Engineer details of a proposed substation earth indicating whether a trench earth, spike earth or foundation earth is intended and the proposed interconnections with the installation.

11.4 FENCES OF OUTDOOR SUBSTATIONS

In cases where substations contain transformers or switchgear installed outdoors, the compulsory fence shall be earthed as follows, if no other method is specified:

a) A 70mm² earth wire shall be installed 400mm below ground level and 500mm from the fence on the outside of the sub-station along the entire length of the fence. This earth wire shall be earthed at each corner by means of a 1.8m earth rod and the rod and earth wire bonded to the fence. The earth wire shall also be bonded, at least at two points, to the main earthing system.
b) A 70mm² earth wire shall also be buried at a depth of 400mm around each transformer and switch and bonded to the main earthing system.

11.5 EARTHING OF A GENERAL ELECTRICAL INSTALLATION

11.5.1 General

All earth conductors shall be stranded copper with or without green PVC insulation. All earth conductor sizes shall be determined in accordance with SANS 10142, par. 4.6 where the earth does not form an integral part of the cable.

11.5.2 Switchboards

A separate earth connection shall be supplied between the earth busbar of the main switchboard and the earth busbar of every sub-switchboard. These connections shall consist of bare or insulated stranded copper conductors installed along the same routes as the supply cables or in the same conduit as the supply conductors. Alternatively armoured cables with earth continuity conductors included in the armouring may be utilised.

11.5.3 Sub-circuits

The earth conductors of all sub-circuits shall be connected to the earth busbar in the supply switchboard in accordance with SANS 10142.

11.5.4 Ring Mains

Common earth conductors may be used where various circuits are installed in the same wiring channel in accordance with SANS 10142. In such instances the sizes of earth conductors shall be specifically approved by the Engineer. Earth conductors for individual circuits branching from the ring main shall be connected to the common earth conductor with T-ferrules or soldered. The common earth shall not be broken.

11.5.5 Connections

Under no circumstances shall connection points, bolts, screws, etc. used for earthing be utilised for any other purpose. It will be the responsibility of the Contractor to supply and fit earth terminals or clamps on equipment and materials that must be earthed where these are not provided. Unless earth conductors are connected to proper terminals, the ends shall be tinned and lugged. Lugs may be crimped, using mechanical or pneumatic tools designed for this purpose, on condition that evidence is submitted that the method used complies with the performance requirements of BS 4579, Part 1: "COMPRESSION JOINTS IN COPPER."

11.5.6 Non-metallic Conduit

Where non-metallic conduit is specified or allowed, stranded copper earth conductors shall be installed in the conduits and fixed securely to all metal appliances and equipment, including switch boxes, socket-outlet boxes, draw-boxes, switchboards, luminaries, etc. The securing of earth conductors by means of self-threading screws will not be permitted.

11.5.7 Flexible Conduit

An earth conductor shall be installed in all non-metallic flexible conduit. This earth conductor shall not be installed external to the flexible conduit but within the conduit with the other conductors. The earth conductor shall be connected to the earth terminals at both ends of the circuit.

11.5.8 Water Pipes

Metal cold water mains shall be bonded to the earth busbar in the Main Switchboard by solid 15x2mm copper strapping. All other hot and cold water pipes shall be connected by 12x0,8mm perforated or solid copper strapping (not conductors) to the nearest switchboard. The strapping shall be fixed to the pipe work by brass nuts and bolts and against walls be brass screws at 150mm centres. In all cases where metal water pipes, down pipes, flues, etc. are positioned within 1,6 m of switchboards, an earth connection consisting of copper strapping shall be installed between the pipe work and the board. In vertical building ducts accommodating both metal water pipes and electrical cables, all the pipes shall be earthed at each switchboard.

11.5.9 Roofs

Where service connections consist of overhead conductors, all metal parts of roofs, gutters and down pipes shall be earthed. One bare 10mm^2 copper conductor shall be installed over the full length of the ceiling void, fixed to the top purlin and connected to the main earth conductor of each switchboard. The roof and gutters shall be connected at 15m intervals to this conductor by means of 12x0.8mm copper strapping (not conductors) and galvanised bolts and nuts. Self-tapping screws are not acceptable. Where service connections consist of underground supplies, the above requirements are not applicable.

12. PROVISION FOR TELEPHONE INSTALLATION

The telephone installation is not part of the scope of works.

13. INSPECTIONS, TESTING, COMMISSIONING AND HANDING OVER

13.1 PHYSICAL INSPECTION PROCEDURE

1. Once the Contractor has completed the installation, written notice shall be given to the Engineer in order that a mutually acceptable date can be arranged for a joint inspection.
2. During the course of the inspection, the representative of the Engineer will compile a list of items (if any) requiring further attention. A copy of this list will be provided to the Contractor who will have a period of 7 days in which to rectify the offending items of the installation.
3. The Contractor shall then provide written notice that he is ready for an inspection of the remedial work to the offending items.

4. This procedure will continue until the entire installation has been correctly completed to the satisfaction of the Engineer.

13.2 TESTING AND OPERATIONAL INSPECTION PROCEDURE

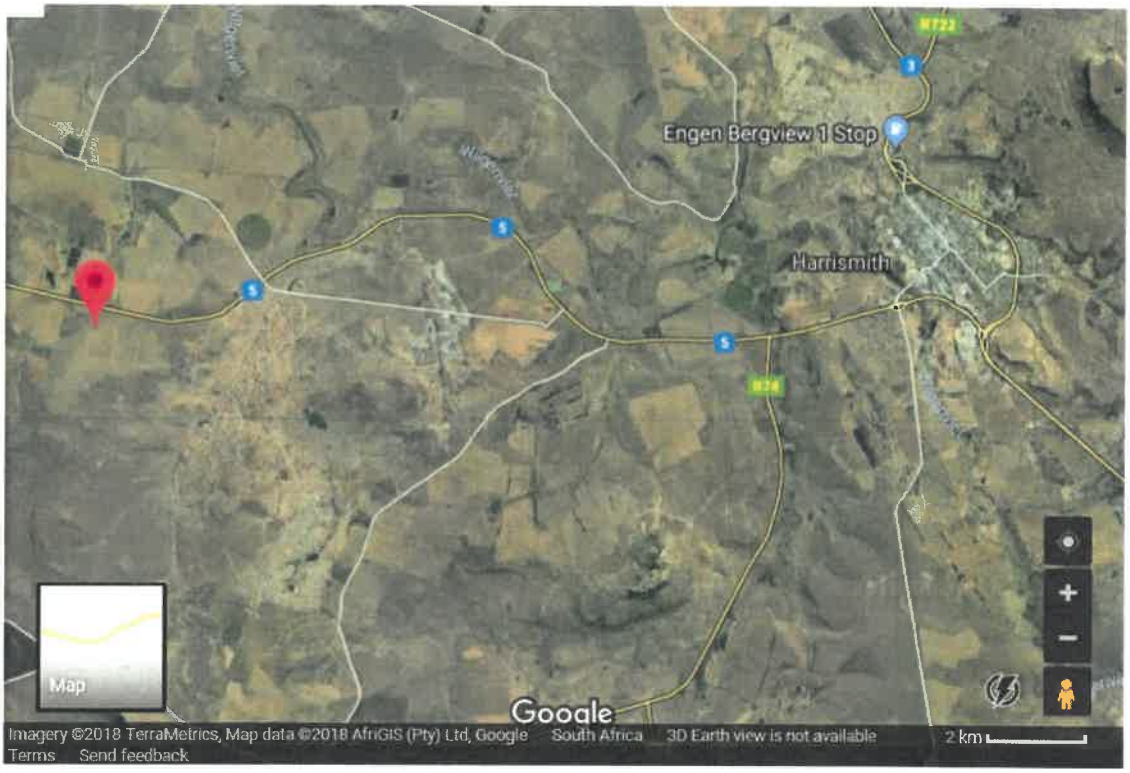
1. In addition to the above the Contractor shall have the complete installation tested and approved by the local authorities where applicable.
2. Subsequent to the above testing and approval, the Contractor shall in the presence of the representative of the Engineer test all circuits with respect to:
    a. Phase balance.
    b. Insulation level.
    c. Polarity.
3. Upon completion of the installation and within 3 months of the handover date, the Contractor shall provide and make available a recording voltmeter to record the voltage at three locations in the complex over a period of 48 hours each. These locations will be nominated by the Engineer.

13.3 "AS BUILT" DRAWINGS

1. As each portion of the work is completed, the Contractor shall provide the Engineer with as-built drawings showing the exact location measured from fixed points of all cables, transmission lines, each outlet point, etc.
2. In addition a complete reticulation diagram showing all supply cables and switchboards shall be provided behind a plastic cover in the substation or adjacent to the Main Switchboard if not located in a substation.
3. The installation will not be regarded as complete until all of the above requirements listed in 1, 2 and 3 above have been met.

PART C4 SITE INFORMATION

C4.1 SITE LOCALITY PLAN



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C4.2 PROJECT LOCALITY PLAN

C4.3 ACCESS TO SITE

The Contractor shall not have sole access to the site during construction, but must make allowance to accommodate the movement of farmers to and from their fields. Areas to be shut down and barricaded for construction purposes will be identified and notice given to the local farmers prior to any works being carried out.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

PART C5 ANNEXURES

THE CONTRACT PART C5: ANNEXURES

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C5.1 PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

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1. INTRODUCTION AND BACKGROUND

1.1 Background to the Pre-construction Health and Safety Specification

The Construction Regulations (July 2003) place the onus on the Client to prepare a pre-construction health & safety specification, highlighting all risks not successfully eliminated during design.

The client has prepared a comprehensive health and safety plan, which must be adhered to by all contractors and sub-contractors. The following pre-construction health and safety plan gives an outline of the more comprehensive health and safety plan implemented by the client. Contractors will be provided with a copy of the client's health and safety plan, in electronic format, on request.

1.2 Purpose of the Pre-construction Health and Safety Specification

To assist in achieving compliance with the Occupational Health & Safety Act 85/1993 and the now promulgated Construction Regulations (July 2003) in order to reduce incidents and injuries. This pre-construction specification shall act as the basis for the drafting of the construction phase health & safety plan.

The pre-construction specification sets out the requirements to be followed by the Principal Contractor and other Contractors so that the health & safety of all persons potentially at risk may receive the same priority as other facets of the project e.g. cost, programme, environment, etc.

1.3 Implementation of the Pre-construction Health and Safety Specification

This specification forms an integral part of the contract, and the Contractor is required to use it at pre-tender phase when drawing up its project-specific construction phase health & safety plan. The Principal Contractor shall forward a copy of this specification to all Contractors at their bidding stage so that they can in turn prepare health & safety plans relating to their operations.

2. PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION

2.1 Scope

This Specification covers the requirements for eliminating and mitigating incidents and injuries on the particular project. The scope also addresses legal compliance, hazard identification and risk assessment, risk control, and promoting a health and safety culture amongst those working on the project. The specification also makes provision for the protection of those persons other than employees.

2.2 Interpretations

2.2.1 Application

This specification is a compliance document drawn up in terms of South African legislation and is therefore binding. It shall be read in conjunction with relevant legislation as noted previously.

2.2.2 Definitions

The definitions as listed in the Occupational Health & Safety Act 85/1993 and Construction Regulations (July 2003) shall apply.

2.3 Minimum Administrative Requirements

2.3.1 *Notification of Intention to Commence Construction Work*

The Contractor shall notify the Provincial Director of the Department of Labour in writing before construction work commences. A copy of this notification shall be forwarded to the Client on appointment.

2.3.2 *Assignment of Contractor's Responsible Persons to Supervise Health and Safety on Site.*

The Contractor shall submit supervisory appointments as well as any relevant appointments in writing (as stipulated by the OHSA and Construction Regulations), prior to commencement of work. Proof of competency shall be included. See Annexure B.

2.3.3 *Competency for Contractor's Appointed Competent Persons*

Contractors' competent persons for the various risk management portfolios shall fulfil the criteria as stipulated under the definition of Competent in accordance with the Construction Regulations (July 2003). Proof of competence for the various appointments shall be included.

2.3.4 *Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)*

The Principal Contractor shall submit a letter of good standing with its Compensation Insurer to the Client as proof of registration. Contractors shall submit proof of registration to the Principal Contractor before they commence work on site.

2.3.5 *Occupational Health and Safety Policy*

The Principal Contractor and all Contractors shall submit a Health and Safety Policy signed by their Chief Executive Officer. The Policy shall outline objectives and how they will be achieved and implemented by the Company/Contractor.

2.3.6 *Health and Safety Organogram*

The Principal Contractor and all Contractors shall submit an organogram, outlining the Health and Safety Site Management Structure including the relevant appointments/competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram shall be updated when there are any changes in the Site Management Structure.

2.3.7 *Preliminary Hazard Identification and Risk Assessment and Progress Hazard Identification and Risk Assessment.*

The Contractor shall cause a hazard identification to be performed by a competent person before commencement of construction work, and the assessed risks shall form part of the construction phase health and safety plan submitted for approval by the Client. The risk assessment shall include:

- A list of hazards identified as well as potentially hazardous tasks;
- A documented risk assessment based on the list of hazards and tasks;
- A set of safe working procedures (method statements) to eliminate, reduce and/or control the risks assessed;
- A monitoring and review procedure of the risks assessment as the risks change.

The Principal Contractor shall ensure that all Contractors are informed, instructed and trained by a competent person regarding any hazards, risks and related safe work procedures before any work commences and thereafter at regular intervals as the risks change and as new risks develop.

The Principal Contractor and relevant Contractors shall be responsible for ensuring that all persons who could be negatively affected by its operations are informed and trained according

to the hazards and risks and are conversant with the safe work procedures, control measures and other related rules (tool box talk strategy to be implemented).

2.3.8 *Health and Safety Representative(s)*

The Principal Contractor and relevant Contractors shall ensure that Health and Safety Representative(s) are appointed under consultation and trained to carry out their functions. The appointment shall be in writing. The Health and Safety Representative shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at health & safety meetings.

2.3.9 *Health and Safety Committees*

The Principal Contractor shall ensure that project health and safety meetings are held monthly and minutes are kept on record. Meetings shall be organised and chaired by the Principal Contractor's Responsible Person. All Contractors' Responsible Persons and Health & Safety Representatives shall attend the monthly health & safety meetings. Contractors shall also have their own internal health & safety committees in accordance with the OHS Act 85/1993 and minutes of their meetings shall be forwarded to the Principal Contractor on a monthly basis.

2.3.10 *Health and Safety Training*

2.3.10.1 Induction

The Principal Contractor and relevant Contractors shall ensure that all site personnel undergo a risk-specific health & safety induction training session before starting work. A record of attendance shall be kept in the health & safety file.

2.3.10.2 Awareness

The Principal Contractor and relevant Contractors shall ensure that, on site, periodic toolbox talks take place at least once per fortnight. These talks should deal with risks relevant to the Construction work at hand. A record of attendance shall be kept in the health & safety file. All Contractors shall comply with this minimum requirement.

2.3.10.3 Competency

All competent persons shall have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out. This will have to be assessed on regular basis e.g. periodic audits by the Client, progress meetings, etc. The Principal Contractor shall ensure that competent Contractors are appointed to carry out construction work.

2.3.11 *General Record Keeping*

The Principal Contractor and relevant Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993; and with the Construction Regulations (July 2003). The Principal Contractor shall ensure that all records of incidents/accidents, training, inspections, audits, etc. are kept in a health & safety file held in the site office. The Principal Contractor shall ensure that every Contractor opens its own health & safety file, maintains the file and makes it available on request.

2.3.12 *Health & Safety Audits, Monitoring and Reporting*

The Client shall conduct monthly health & safety audits of the work operations which may include a full audit of physical site activities as well as an audit of the administration of health & safety. The Principal Contractor shall conduct similar audits on all Contractors appointed by it. Detailed reports of the audit findings and results shall be reported on at all levels of project management meetings/forums. Copies of the Client audit reports shall be kept in the Primary Project Health & Safety File while the Principal Contractor audit reports shall be kept in their file, a copy being forwarded to the Client. Contractors have to audit their sub-contractors and keep records of these audits in their health & safety files, available on request.

2.3.13 *Emergency Procedures*

The Principal Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following key elements:

- List of key competent personnel;

- Details of emergency services;
- Actions or steps to be taken in the event of the specific types of emergencies;
- Information on hazardous material/situations.

Emergency procedure(s) shall include, but not be limited to, fire, spills, falls, accidents to employees, use of hazardous substances, major incidents/accidents, etc. The Principal Contractor shall advise the Client in writing forthwith, of any emergencies, together with a record of action taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc) shall be maintained and available to site personnel.

2.3.14 *First Aid Boxes and First Aid Equipment*

The Principal Contractor and relevant Contractors shall appoint in writing First Aider(s). The appointed First Aider(s) shall have received or be sent for accredited first aid training. Valid certificates are to be kept on site. The Principal Contractor shall provide an on-site First Aid Station with first aid facilities, including first aid boxes adequately stocked at all times. All Contractors with more than 5 employees shall supply their own first aid box. Contractors with more than 10 employees shall have a trained, certified first aider on site at all times.

2.3.15 *Accident/Incident Reporting and Investigation*

Injuries are to be categorised into first aid; medical; disabling; and fatal. The Principal Contractor shall stipulate in its construction phase health & safety plan how it will handle each of these categories. When reporting injuries to the Client, these categories shall be used. All injuries shall be investigated by the Principal Contractor, with a report being forwarded to the Client forthwith. All Contractors shall report on the 4 categories of injuries to the Principal Contractor at least monthly. The Principal Contractor shall report all injuries to the Client in the form of a detailed injury report at least monthly.

2.3.16 *Hazards and Potentially Hazardous Situations*

The Principal Contractor shall immediately notify other Contractors as well as the Client of any hazardous or potentially hazardous situations that may arise during performance of construction activities.

2.3.17 *Personal Protective Equipment (PPE) and Clothing*

The Principal Contractor shall ensure that all workers are issued and wear hard hats (where applicable), safe footwear and overalls. The Principal Contractor and all Contractors shall make provision and keep adequate quantities of SABS approved PPE on site at all times. The Principal Contractor shall clearly outline procedures to be taken when PPE or Clothing is:

- Lost or stolen;
- Worn out or damaged.

The above procedure also applies to Contractors and their Sub-contractors, a they are all Employers in their own right.

2.3.18 *Occupational Health and Safety Signage*

The Principal Contractor shall provide adequate on-site OHS signage. Including but not limited to: `no unauthorised entry', `report to site office', `site office', `beware of overhead work', `hard hat area'. Signage shall be posted up at all entrances to site as well as on site in strategic locations e.g. access routes, stairways, entrances to structures and buildings, scaffolding, and other potential risk areas/operations.

2.3.19 *Permits*

Permits may include the following:

- Use of Explosives and Blasting
- Work for which a fall prevention plan is required
- Use of cradles

2.3.20 *Contractors and Sub-contractors*

The Principal Contractor shall ensure that all Contractors under its control comply with this Specification, the OHS Act 85/1993, Construction Regulations (July 2003), and all other relevant legislation that may relate to the activities directly or indirectly. The Contractor, when appointing other Contractors as `Sub-contractors', shall mutatis mutandis ensure compliance.

2.4 Physical Requirements

2.4.1 *Demolition Work*

Prior to any demolition work being carried out, the Principal Contractor shall submit a safe working procedure for approval by the Client. Acceptance will then be issued to the Principal Contractor to proceed with the demolition work. The Principal Contractor shall ensure that demolition work complies with the Construction Regulations (July 2003).

2.4.2 Excavati*ons, Shoring, Dewatering or Drainage*

The Principal Contractor and any relevant Contractors shall make provision in their tender for shoring, dewatering or drainage of any excavation as per this specification. The Contractor shall make sure that:

- The excavations are inspected before every shift and a record is kept;
- Safe work procedures have been communicated to the workers;
- The safe work procedures are enforced and maintained by the Contractor's Responsible Persons at all times;
- The requirements as per section 11 of the Construction Regulations are adhered to.

2.4.3 *Edge Protection and Penetrations*

The Principal Contractor shall ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The Principal Contractor's risk assessment shall include these items. E.g. protection of decking edges, finished floor slab edges, stairways, floor penetrations, lift shafts, and all other openings and areas where a person may fall.

2.4.4 *Explosives and Blasting*

The Principal Contractor shall ensure that the use of explosives and blasting (where required) is undertaken by a competent Contractor. A Safe Work Procedure (SW P) shall be submitted to the Client for approval before commencement of blasting work. The Client will issue a permit to authorise the operation.

2.4.5 *Piling*

The Principal Contractor shall ensure that piling is undertaken by a competent Contractor. A SWP shall be submitted to the Client for approval before commencement of this work.

2.4.6 *Stacking of Materials*

The Principal Contractor and other relevant Contractors shall ensure that there is an appointed stacking supervisor and all materials, formwork and equipment is stacked and stored safely.

2.4.7 Speed Restrictions and Protection

The Principal Contractor shall ensure that all persons in its employ, all Contractors, and all those that are visiting the site are aware of and comply with any site speed restriction(s). Where necessary separate vehicle and pedestrian access routes should be provided, maintained, controlled, and enforced.

2.4.8 Hazardous Chemical Substances (HCS)

The Principal Contractor and other relevant Contractors shall provide the necessary training and information regarding the use, transport, and storage of HCS. The Principal Contractor and relevant Contractors shall ensure that the use, transport, and storage of HCS is carried out as prescribed by the HCS Regulations. The Principal Contractor shall ensure that all hazardous chemicals on site have a Material Safety Data Sheet (MSDS) on site and the users are made aware of the hazards and precautions that need to be taken when using the chemicals. The First Aiders shall be made aware of the MSDS and how to treat HCS incidents appropriately.

2.5 Equipment and Machinery

2.5.1 *Construction Equipment*

"Construction Equipment' includes all types of equipment including but not limited to, cranes, piling rigs, earth moving equipment, concrete mixers, road making equipment, road vehicles, and all lifting equipment.

The Principal Contractor and relevant Contractors shall ensure that all such equipment complies with the requirements of the OHS Act 85/1993 and Construction Regulations (July 2003). The Principal Contractor and all relevant Contractors shall inspect and keep records of inspections of the construction plant used on site. Only authorised/competent persons are to use machinery under proper supervision. Appropriate PPE and clothing shall be provided and maintained in good condition at all times.

2.5.2 *Vessels under Pressure (VuP) and Gas Bottles*

The Principal Contractor and all relevant Contractors shall comply with the Vessels under Pressure Regulations, including:

- Providing competency and awareness training to the operators;
- Providing PPE or clothing;
- Inspect equipment regularly and keep records of inspections;
- Providing appropriate fire fighting equipment (Fire Extinguishers) on hand.

2.5.3 *Fire Extinguishers and Fire Fighting Equipment*

The Principal Contractor and relevant Contractors shall provide adequate, regularly serviced fire fighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs shall be posted up as required.

2.5.4 *Hired Equipment and Machinery*

The Principal Contractor and relevant Contractors shall ensure that any hired equipment and machinery used on site is safe for use. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (July 2003) shall apply. The Principal Contractor and relevant Contractors shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file.

2.5.5 *Scaffolding/ Working at Heights*

Working at heights includes any work that takes place in an elevated position. The Principal Contractor and relevant Contractors shall submit a risk-specific fall prevention plan in accordance with the Construction Regulations (July 2003) before this work is undertaken. The fall prevention plan must be approved by the Client before work may commence, and approval to operate will be issued.

2.5.6 *Formwork and Support work for Structures*

The Principal Contractor and relevant Contractors shall ensure that the provisions of section 10 of the Construction Regulations (July 2003) are adhered to. These provisions shall include but not be limited to ensuring that all equipment used is examined for suitability before use; that all formwork and support work is inspected by a competent person immediately before, during and after placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work has been removed. Records of all inspections shall be kept in a register on site.

2.5.7 *Lifting Machines and Tackle*

The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (section 20). There must be a competent lifting machinery and tackle inspector who must inspect the equipment daily or before use, to ensure that:

- All lifting machinery and tackle has a safe working load clearly indicated;
- Regular inspection and servicing is carried out;
- Records are kept of inspections and of service certificates;
- There is proper supervision in terms of guiding the loads that includes a trained banksman to direct lifting operations and check lifting tackle;
- The tower crane bases have been approved by an engineer;
- The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

2.5.8 *Ladders and Ladder Work*

The Principal Contractor and relevant Contractors shall ensure that all ladders are inspected monthly, are in good safe working order are the correct height for the task, extend at least I m above the landing, fastened and secured, and at a safe angle. Records of inspections shall be kept in a register on site.

2.5.9 *General Machinery*

The Principal Contractor and relevant Contractors shall ensure compliance with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing, and training those who use machinery

2.5.10 *Portable Electrical Tools and Explosive Powered Tools*

The Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation. The Contractor shall ensure that all electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order. Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and control measures to be implemented e.g. personal protection equipment, guards, etc.

The Contractor shall consider the following:

- A competent person undertakes routine inspections and records are kept;
- Only authorised trained persons use the tools;
- The safe working procedures apply;
- Awareness training is carried out and compliance is enforced at all times; and

- PPE and clothing is provided and maintained.
- A register indicating the issue and return of all explosive round;
- Signs to be posted up in the areas where explosive powered tools are being used

2.5.11 *High Voltage Electrical Equipment*

The location of any high voltage electrical equipment on, under or above the construction area shall be clearly identified, and the Principal Contractor and relevant Contractors shall ensure that every person working close to or under high voltage electrical equipment is made aware of the dangers likely to arise.

2.5.12 *Public and Site Visitor Health & Safety*

The Principal Contractor and relevant Contractors shall ensure that every person working on or visiting the site, as well as the public in general, is made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimise those dangers. Appropriate health and safety notices and signs shall be posted up, but shall not be the only measure taken.

Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities.

Site visitors must be briefed on the hazards and risks they may be exposed to and what measures are in place or should be taken to control these hazards and risks. A record of these `inductions' must be kept on site in accordance with the Construction Regulations.

2.5.13 *Night Work*

The Principal Contractor and relevant Contractors shall ensure that adequate lighting is provided to allow for work to be carried out safely.

2.5.14 *Transport of Workers*

The Principal Contractor and relevant Contractors shall not transport persons together with goods or tools unless there is an appropriate area or section to store them.

2.6 Occupational Health

2.6.1 Occupational Hygiene
Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and all Contractors shall ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, absorption, and noise induction. Generic site-specific health risks are tabled in Annexure C e.g. cement dust, wet cement, wood-dust, noise, etc.

2.6.2 Alcohol and other Drugs
No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior; who shall in turn report this to the Principal Contractor forthwith any person suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs shall be sent off site immediately.

PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION (HSS)

PROJECT:

ANNEXURE A

The Principal Contractor and Contractors shall submit proof of compliance with Annexure A with the construction phase H&S plan where applicable.

HSS Item No.	Requirement	OHS Act Requirement	Submission Date
2.3.1	Notification of intention to commence construction/ building work	Complete Schedule 1 (Construction Regulations)	Before commencement on site
2.3.2	Assignment of responsible person to supervise construction work	All relevant appointments as per OHS Act and Construction Regulations	Before commencement on site
2.3.3	Competence of responsible person	Client requirement and OHS Act	Together with H&S Plan
2.3.4	Compensation of Occupational Injuries and Diseases Act (COIDA) 130 of 1993	COIDA requirement	Together with H&S Plan
2.3.5	Occupational Health and Safety policy	OHS Act	Together with H&S Plan
2.3.6	Health and Safety organogram	Client requirement	Together with H&S Plan
2.3.7	Initial hazard identification and risk assessment based on the client's assessment	Construction regulations	Together with H&S Plan
2.3.8	Health and Safety representative	OHS Act	Submit as soon as there are more than 20 employees on site

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

ASSIGNMENT OF PRINCIPAL CONTRACTOR'S RESPONSIBLE PERSONS

PROJECT:

ANNEXURE B

The Principal Contractor shall make the following appointments according to the initial risk assessment: (further appointments could become necessary as project progresses)
Note: Depending on the scale of the project the same person may take on multiple appointments
Eg The Construction Supervisor could also be the First Aider, the Scaffolding Supervisor and the Earthworks Supervisor etc

APPOINTMENT	OHSA REFERENCE	REQUIREMENT
CEO Assignee	Section 16(2)	A competent person to assist with the on-site H & S overall responsibility - Contractor's Responsible Person
Construction Work Supervisor	CR 6.1	A competent person to supervise and be responsible of Health & Safety related issues on site. The person is appointed to assist the CEO with his/her overall duties.
Subordinate Construction Work Supervisors	CR 6.2	A competent person to assist with daily supervision of construction/building work. The person assists the Construction Work Supervisor.
Health & Safety Representative(s)	Section 17	A competent person(s) to inspect H & S in reference to plant, machinery & Health & Safety of persons in the workplace.
Health & Safety Committee Member(s)	Section 19	A competent person(s) representing the employer to assist with the on site Health & Safety matters.
Incident Investigator	GAR 8	A competent person to investigate incidents/accidents on site & could be: • The employer • H & S Representative • Designated person • Member of the H & S Committee.
Risk assessment co-ordinator	CR 7	A competent person to co-ordinate all risk assessments on behalf of the Principal Contractor and relevant Contractors.
Fall protection plan co-ordinator	CR 8	A competent person to prepare & amend the fall protection plan.

APPOINTMENT	OHSA REFERENCE	REQUIREMENT
First Aiders	GSR 3	A qualified person to address all on site first aid cases.
Machinery Inspector	GSR 2.1	A competent person to supervise machinery.
Lifting machine & equipment inspector	DMR 18	A competent person to inspect lifting machines, equipment & tackle.
Scaffolding Inspector	SABS 085	A competent person to inspect scaffolding before use and every time after bad weather, etc.
Scaffolding erector	GSR 13D	A competent person to erect scaffolding.
Scaffolding supervisor	SABS 085	A competent person to supervise scaffolding.
Formwork & support work inspector	CR 10	A competent person to inspect formwork & support work.
Excavation Inspector	CR 11	A competent person to inspect excavation work and ensure that approved safe working procedures are followed at all times.
Ladder Inspector	GSR 13A	A competent person to inspect ladders daily and ensure they are safe for use, keeping monthly record.
Stacking Supervisor	CR 26	A competent person to supervise all stacking and storage operations.
Explosive powered tools inspector/supervisor	CR 19	A competent person to inspect & clean the tool daily and controlling all operations thereof.
Temporary electrical installations supervisor	CR 22	A competent person to control all temporary electrical installations.
Fire-fighting equipment inspector	CR 27	A competent person to inspect fire-fighting equipment.

OTHER REQUIREMENTS

PROJECT:

ANNEXURE C

The Principal Contractor shall comply with but not be limited to the following requirements: report on these to the Client at progress meetings or at least monthly whichever is sooner.

WHAT	WHEN	OUTPUT	ACCEPTED BY CLIENT & DATE
Induction training	Every worker before he/she starts work.	Attendance registers	
Awareness Training (Tool Box Talks)	At least weekly	Attendance registers	
Health & Safety Reports	Monthly	Report covering: • Incidents/accidents & investigations • Non conformances by employees & contractors • Internal & External H & S audit reports.	
Emergency procedures	Ongoing evaluation of procedure.	Table procedure in writing as well as tel. Numbers.	
Risk assessment	Updated & signed off at least monthly	Documented risk assessment.	
Safe work procedures	Drawn up before workers are exposed to new risks	Documented set of safe work procedures (method statements) updated & signed off.	
General Inspections	Weekly & daily	Report OHS Act compliance: • Scaffolding • Excavations • Formwork & support work • Explosive tools	
General Inspections	Monthly	Fire fighting equipment Portable electrical equip. Ladders Lifting equipment/slings	
List of Contractors	List to be updated weekly	Table list, number of workers and Company tel. Numbers.	

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

WHAT	WHEN	OUTPUT	ACCEPTED BY CLIENT & DATE
Workman's Compensation	Ongoing	Table a list of Contractor's workman's compensation proof of good standing.	
Construction site rules & Section 37.2 Mandatary Agreement	Ongoing	Table a report of all signed up Mandataries.	

ACKNOWLEDGEMENT OF RECEIPT

PROJECT:

ANNEXURE D

I, representing,

Principal Contractor / Contractor / Employer

Have satisfied myself with the content of the Pre-construction Health and Safety Specification and shall ensure that the Principal Contractor / Contractor and its personnel comply with all obligations / requirements in respect thereof.

Signature of Principal Contractor / Contractor Date

Signature of Client / Client's Agent Date

Comments

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C5.2 ENVIRONMENTAL MANAGEMENT PLAN

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Table 1 Mechanism that Cause Environmental Impacts during Construction Activities C5.35

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C1001 SCOPE

This environmental management programme (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the defects liability period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract.

The EMP is a dynamic document subject to similar influences and changes as are wrought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the Employer in writing for approval.

The EMP identifies the following:

Construction activities that will impact on the environment
Specifications with which the contractor shall comply in order to protect the environment from the identified impacts
Actions that shall be taken in the event of non-compliance

C1002 DEFINITIONS

Alien Vegetation: alien vegetation is defined as undesirable plant growth which shall include, but not be limited to, all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area.

Construction Activity: a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process.

Environment: environment means the surroundings within which humans exist and that could be made up of –

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being

Environmental Aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental Impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity within the road width and between the limits that define the construction site. An impact may be the direct or indirect consequence of a construction activity.

Road Reserve: the road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Road Width: for the purposes, of the EMP, the road width is defined as the area within the road reserve i.e. fence line to fence line, but also includes all areas beyond the road reserve that are affected by the continuous presence of the road, e.g. a reach of a water course.

C1003 IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- storm water discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impact from happening. If prevention is not practical or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce an approved construction programme according to clause 15 of the general conditions of contract and clause B1204 of these project specifications.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

Pollution of atmosphere, soil or water
Destruction or removal of fauna and flora and effect on biological diversity
Deformation of the landscape
Soil erosion
Destruction of historical/heritage sites
Effect on the built environment
Effect on agricultural land and wetlands

General good construction practise will play an important role in avoiding the occurrence of an Impact. The contractor's attention is drawn, in this regard, to C1008. Environmental Management of Construction Activities.

C1004 LEGAL REQUIREMENTS

a) General

construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

b) Statutory and other applicable legislation

It is expected that the contractor is conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

C1005 ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

a) Appointment of a Designated Environmental Officer (DEO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the DEO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions of the contractor where environmental considerations call for action to be taken. The DEO shall submit regular written reports to the engineer, but not less frequently than once a month.

The engineer shall have the authority to instruct the contractor to replace the DEO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

There shall be an approved DEO on the site at all times.

b) Administration

Before the contractor begins each construction activity the DEO shall give to the engineer a written statement setting out the following:

The type of construction activity
Locality where the activity will take place
Identification of the environmental aspects and impacts that might result from the activity
Methodology for impact prevention for each activity or aspect
Methodology for impact containment for each activity or aspect
Emergency/disaster incident and reaction procedures
Treatment and continued maintenance of impacted environment

The contractor may provide such information in advance for any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

c) Good Housekeeping

The Contractor shall undertake "good housekeeping" practices during construction. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

C1006 TRAINING

The designated environmental officer (DEO) must be appropriately trained in environmental management and must possess skills necessary to impart environmental management skills to all personnel involved in the contract.

The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies
- The environmental impacts, actual or potential, of their work activities
- The environmental benefits of improved personal performance
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of the Agency's environmental management systems, including emergency preparedness and response requirements
- The potential consequences of departure from specified operating procedures
- The mitigation measures required to be implemented when carrying out their work activities

In the case of permanent staff the contractor shall provide evidence that such induction causes have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how it intends concluding its environmental training obligations.

C1007 ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 7/1: Aspects or Activities that Cause Environmental Impacts during Construction Activities, which is to be found at the end of this section. This list is not exhaustive, and shall be used for guideline purposes only.

C1008 ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

a) Site Establishment

i) Site Plan

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.

The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course as possible. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site.

ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.

The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, same specie indigenous trees as were occurring, shall be re-established.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

iv) Water for Human Consumption

Water for human consumption shall be available at the site offices and at other convenient locations on site.

All effluent water from the camp/office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc.). Only domestic type wastewater shall be allowed to enter this drain.

v) Cooking Fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage Treatment

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as "enviro loos", or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 meters from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer.

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.
Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.

c) Waste Management

The contractor's intended methods for waste management and waste minimisation shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.

i) Solid Waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a Department of Water Affairs and Forestry (DWAF) licensed landfill site or at a site approved by DWAF in the event that an existing operating landfill site is not within reasonable distance from the site offices and staff accommodation. No waste shall be burned or buried at or near the site offices, nor anywhere else on the site, including the approved solid waste disposal site.

ii) Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.

Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites.

iii) Hazardous Waste

Hazardous waste such as bitumen, tar, oils, etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. No spillage of tar or bituminous products shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the engineer.

d) Control at the Workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials, e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

iii) Fuel and Gas Storage

Fuel should be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. Leakage of fuel shall be avoided. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any spillage or overflow from these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil.

Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

iv) Oil and Lubricant Waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

e) Clearing the Site

In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer for his approval.

The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be held responsible for re-establishment of grass within the road reserve boundaries for all areas disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the defects liability period.

f) Soil Management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained

throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved Department of Water Affairs and Forestry waste disposal site. The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.

g) Drainage

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion, direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.

The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

h) Earthworks and Layer works

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the contractor shall have complied with

the requirements of sections C1008 (e) and C1008 (g). In addition, the contractor shall take cognisance of the requirements set out below.

i) Quarries and borrow pits

The contractor's attention is drawn to the requirement of the Department of Minerals and Energy, that before entry into any quarry or borrow pit, an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the contractor to ensure that he obtains from the engineer, a copy of the approved EMP prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications the former shall apply. The cost of complying with the requirements shall be deemed to be included in existing rates in the Schedule of Quantities

ii) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil and sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity.

iii) Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects liability period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after revegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilizing methods. The engineer may only approve a completed spoil site at the end of the defects liability period upon receipt from the contractor of a

landowner's clearance notice and an engineer's certificate certifying slope stability. The contractor's costs incurred in obtaining the necessary certification for opening and closing of spoil sites shall be deemed to be included in the tendered rates for spoiling.

iv) Stockpiles

The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor's proposed measures for prevention, containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact;
- Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and
- Kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer is received.

Material milled from the existing road surface that is temporarily stockpiled in areas approved by the engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in situ milling or any detritus of material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract drawing or under instruction from the engineer

In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their clause only when they have been satisfactorily rehabilitated.

v) Blasting activities

Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields. The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard.

The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the time and delays to be expected for each individual blast.

i) Batching sites

Asphalt plants are considered scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt plant be considered on site, the contractor shall be responsible to obtain the necessary permit from the Department of Environmental Affairs and Tourism, regardless of where they are sited.

Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bonded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer will assist the contractor in his submissions to the relevant authority.

Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.

The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals thereafter, not exceeding 12 months apart

j) Spillages

Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer. The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be revegetated according to the engineer's instructions.

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and

rehabilitation shall be for the contractor's account, including the costs of specialist input.

k) Areas of Specific Importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

i) Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The National Monuments Council is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist

ii) Graves and maddens

If a grave or madden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/maddens shall be stopped and the engineer informed of the discovery. The National Monuments Council should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with the National Monuments Council, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred.

l) Noise Control

The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise, shall be mandatory.

Should noise generating activities have to occur at night the people in the vicinity of the drilling shall be warned about the noise well in advance and the activities kept to a minimum.

m) Dust Control

Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust omission from batching plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant Department of Minerals and Energy.

n) Alien Vegetation

The contractor shall be held responsible for the removal of alien vegetation within the road reserve disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve. This responsibility shall extend for the duration of the defects liability period.

C1009 RECORD KEEPING

The engineer and the DEO to the contractor will continuously monitor the contractor's adherence to the approved impact prevention procedures and shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO should document the nature and magnitude of the non-conformance in a designated register, the action taken to discontinue the non-conformance, the action taken to mitigate its effects and the results of the actions. The non-conformance shall be documented and reported to the engineer in the monthly report.

Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the employer or relevant environmental departments.

C1010 COMPLIANCE

The contractor shall act immediately when such notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. This record shall be submitted with the monthly reports and a verbal report given at the monthly site meetings.

Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS *(to be completed by compiler)*
Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil	
Clearing and grubbing	Waste treatment Hazardous waste Water supply Noise /lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Protection of indigenous vegetation Preserve topsoil	

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS *(to be completed by compiler)*
Drainage	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Stockpiling	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Mass Earthworks	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS *(to be completed by compiler)*
Pavement layers	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Asphalt works / sealing operations	Waste treatment Hazardous waste Water supply Spillage Storage Noise / lights Dust control Smoke control Storage of materials	Selection of site Preserve indigenous vegetation Preserve topsoil Turning circles Parking areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	
Ancilliary road works	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS *(to be completed by compiler)*
Concrete pavements etc.	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

NOTE:
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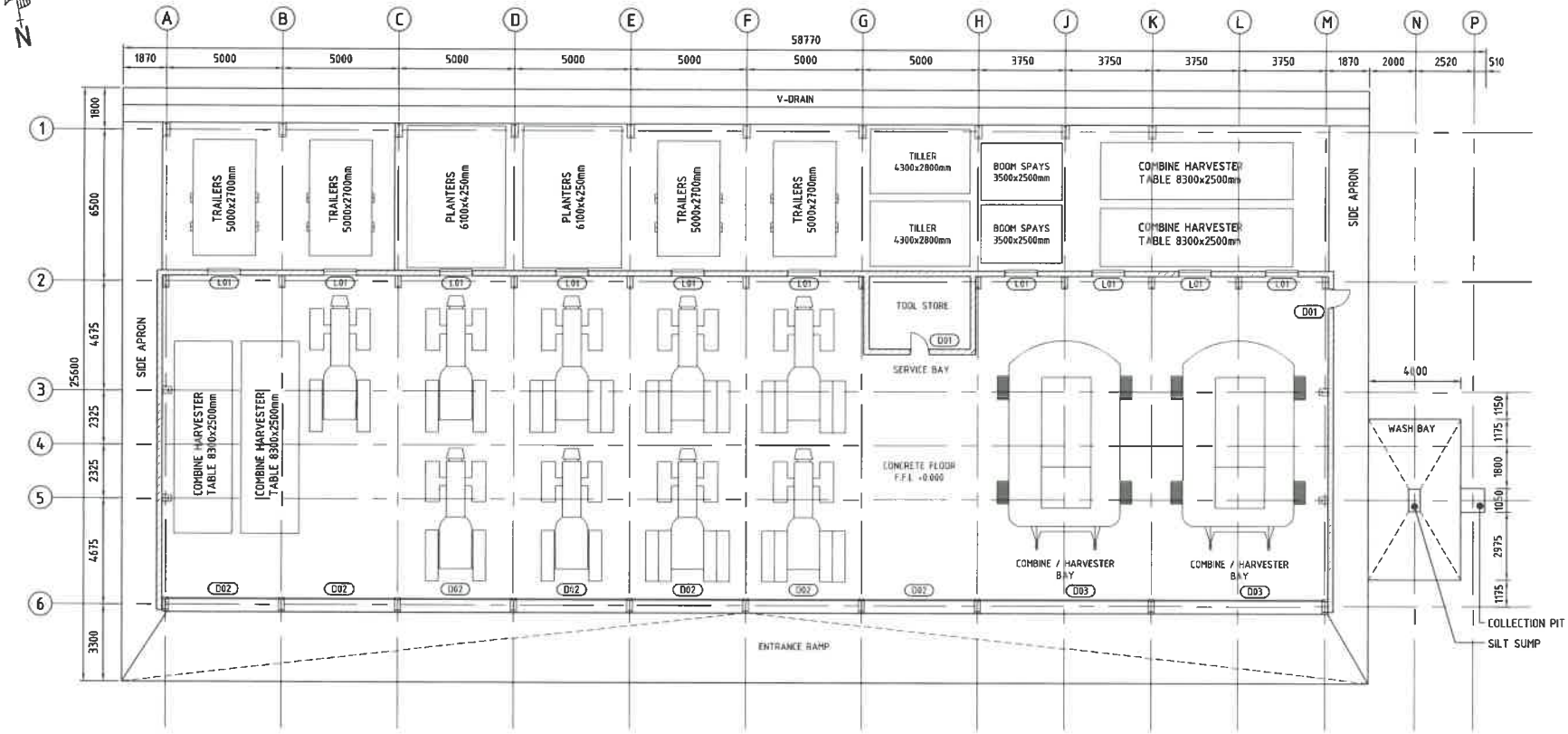

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FOR TENDER

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B	29.01.2019	AMENDMENT FOR APPROVAL	-	S.M
C	30.01.2019	AMENDMENT FOR APPROVAL	-	S.M
D	08.02.2019	RE-ISSUED FOR TENDER	-	S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.RIDGS
DRAFTING CHECK	R.TEJA
DESIGNER	G.MOREA-SAMUEL
DESIGN CHECK	H.MOSTERT
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100 1 0 1 2 3 4 5

DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department: Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - ARCHITECTURAL
GROUND FLOOR LAYOUT

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PLOT DATE 08 Feb 2019 TIME 05:49:26
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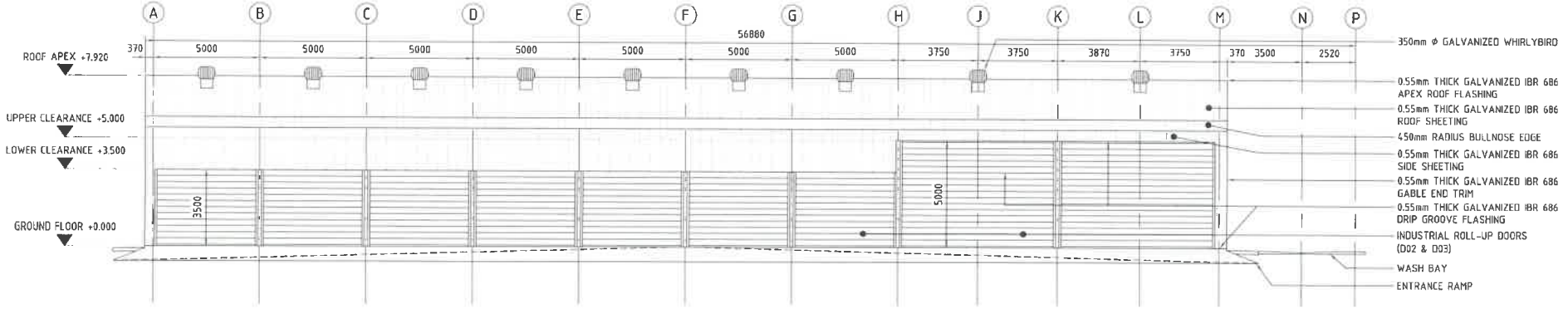

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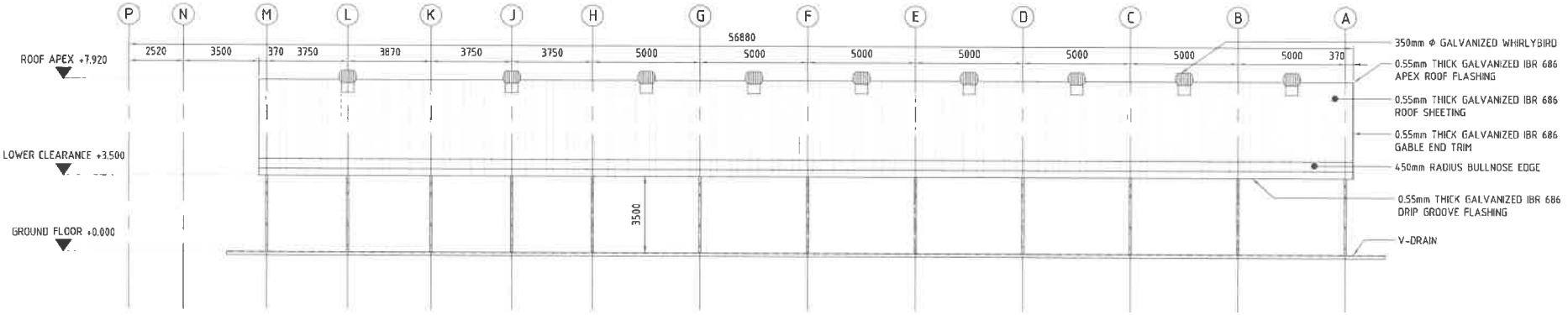

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FOR TENDER

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B	08.02.2019	RE-ISSUED FOR TENDER		S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.ROOS
DRAFTING CHECK	R.TEJA
DESIGNER	G.MOREA-SAMUEL
DESIGN CHECK	M.MOSTERT
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100 1 0 1 2 3 4 5

DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - ARCHITECTURAL
BUILDING ELEVATIONS
SHEET 1 OF 2

PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
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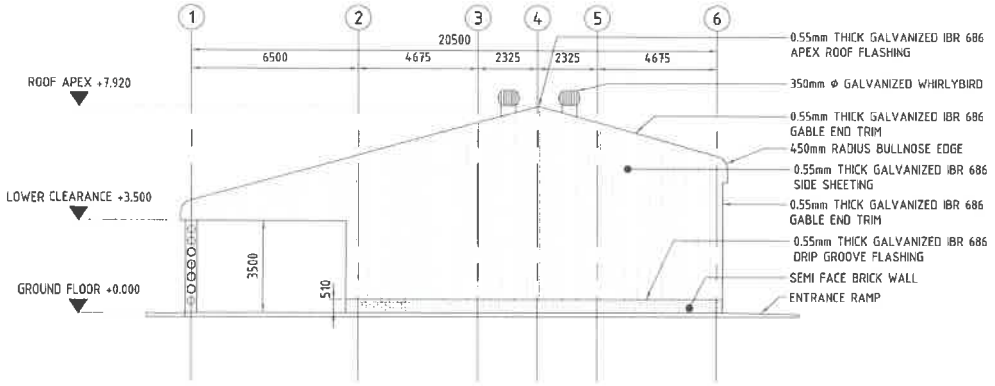

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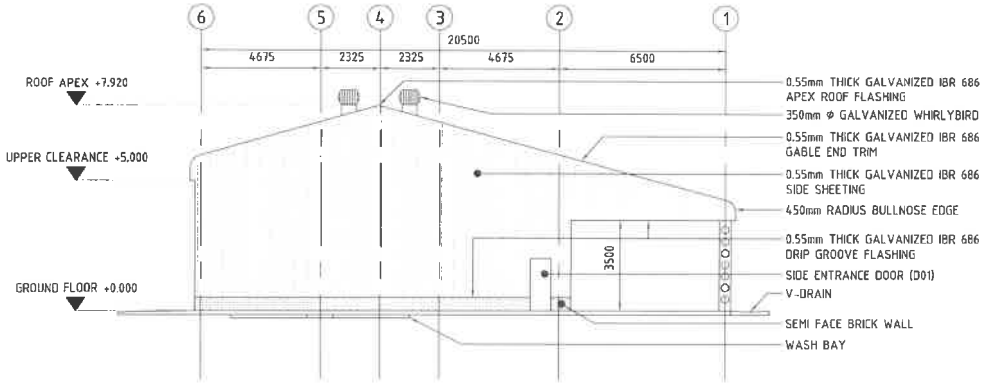

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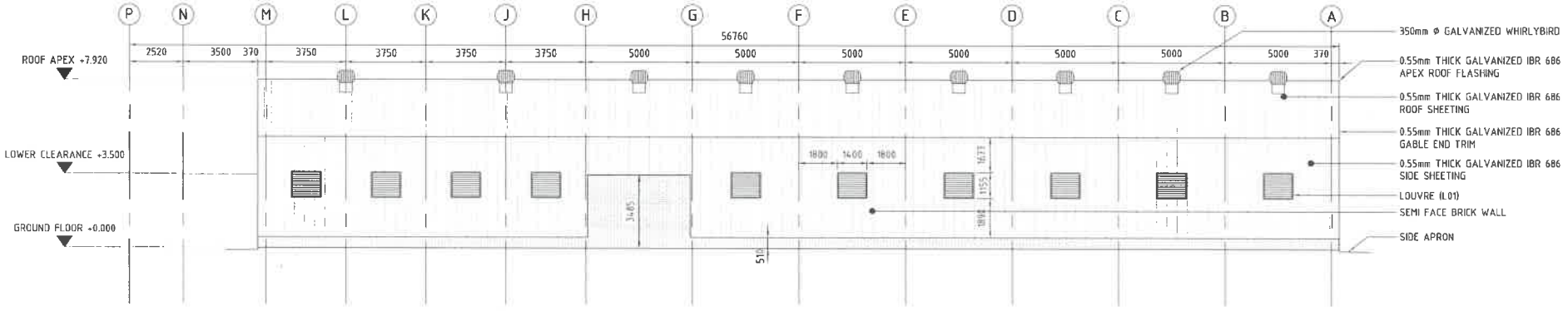

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FOR TENDER

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B	08.02.2019	RE-ISSUED FOR TENDER	-	S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.ROOS
DRAFTING CHECK	R.TEJA
DESIGNER	S.MARAIS
DESIGN CHECK	H.MINNAAR
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100 1 0 1 2 3 4 5

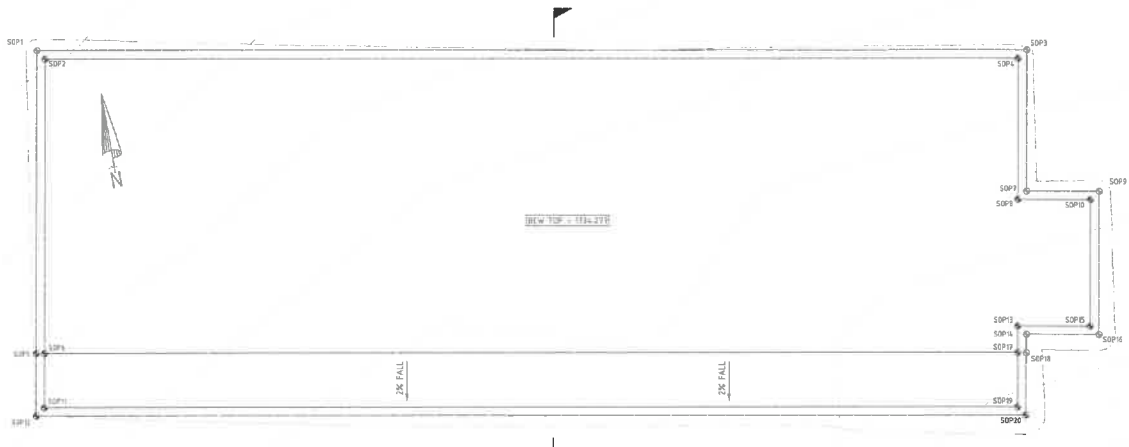
DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

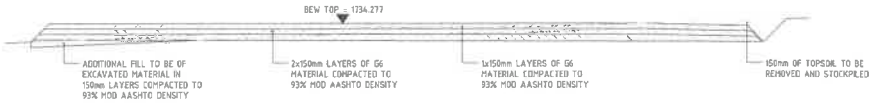
DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - ARCHITECTURAL
BUILDING ELEVATIONS
SHEET 2 OF 2

PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
2	DAR	052	B

PLOT DATE 08 Feb 2019
TIME 055122
DRAWING FILE LOCATION / NAME
150 mm ON ORIGINAL
A1



PLAN
SCALE 1:100



SECTION A-A
SCALE 1:50

1. FIGURED DIMENSIONS ON DRAWINGS TO BE GIVEN PRIORITY OVER SCALING.
2. ANY OMISSIONS, DISCREPANCIES OR ERRORS TO BE IMMEDIATELY REPORTED TO THE PROJECT MANAGER.
3. CONTRACTOR TO CHECK AND VERIFY SUFFICIENCY OF INFORMATION SHOWN ON THE DRAWING AND DIMENSIONS BEFORE COMMENCING WORK. SHOULD THE CONTRACTOR PROCEED WITHOUT THE ABOVE APPROVALS HE DOES SO ENTIRELY AT HIS OWN RISK.
4. SETTING OUT DETAILS TO BE VERIFIED BY THE PROJECT MANAGER.
5. EXISTING LEVELS TO BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION.
6. ALL SETTING OUT WORKING METHODOLOGY AND TESTING TO COMPLY WITH SANS 1200 SPECIFICATIONS.
7. ALL MATERIALS TO BE TESTED ACCORDING TO TRH4 SPECIFICATION.
8. CONTRACTOR TO LOCATE AND IDENTIFY EXISTING SERVICES ON SITE AND TO PROTECT THESE FROM DAMAGE THROUGHOUT THE DURATION OF THE WORKS
9. CONTRACTOR TO PROVIDE THE GRADING MODULUS, INDICATION TESTS, MOD AND OMC OF THE MATERIALS TO BE USED FOR SUBGRADE FILL AND STABILIZED BASE LAYER.
10. COMPACTION TO BE DONE TO THE REQUIRED MOD AASHTO DENSITY AS SPECIFIED ON THE DRAWINGS FOR THE DIFFERENT LAYERWORKS.
11. TWO DENSITY TESTS PER 150mm LAYER / BATCH / PLATFORM REQUIRED.
12. BM TO BE VERIFIED WITH THE SURVEYOR BEFORE CONSTRUCTION COMMENCES.
13. TOPSOIL LAYER OF APPROXIMATELY 150mm TO BE STRIPPED AND STOCKPILED AS INDICATED BY THE PROJECT MANAGER.
14. TEMPORARY EMBANKMENTS TO BE AT 1:1 SLOPE
15. VERTICAL EMBANKMENTS CAN ONLY BE CONSTRUCTED WITH EMBANKMENT AND SHORING DESIGNS AS SPECIFIED BY THE GEOTECHNICAL ENGINEER.
16. THE CONTRACTOR TO ENSURE THAT THE PLATFORMS ARE FREE OF STANDING WATER AT ALL TIMES. MEASURES TO BE IMPLIMENTED TO MANAGE STORMWATER AND TO PROTECT TEMPORARY EMBANKMENTS.

COORDINATE LIST
WGS 84 Lo29

COORDINATE DATA TABLE

POINT	Y-COORD	X-COORD	ELEVATION
CONST.			
SOP1	5226.393	3130370.332	1733.827
SOP2	5226.827	3130370.853	1734.277
SOP3	5172.568	3130379.735	1733.827
SOP4	5173.089	3130380.101	1734.277
SOP5	5229.239	3130386.893	1733.827
SOP6	5228.827	3130386.890	1734.277
SOP7	5173.909	3130387.493	1733.827
SOP8	5174.430	3130387.779	1734.277
SOP9	5169.969	3130388.102	1733.827
SOP10	5170.490	3130388.468	1734.277
SOP11	5229.343	3130389.836	1734.217
SOP12	5229.864	3130390.202	1733.767
SOP13	5175.635	3130394.675	1734.277
SOP14	5175.269	3130395.196	1733.827
SOP15	5171.694	3130395.363	1734.277
SOP16	5171.329	3130395.884	1733.827
SOP17	5175.889	3130396.128	1734.277
SOP18	5176.445	3130396.205	1733.827
SOP19	5176.405	3130399.683	1734.217
SOP20	5176.039	3130399.604	1733.767

	BENCHMARKS	SYSTEM WG 29°	
TR211	Y=5700.410	X=3131524.450	1756.5000
HS1	Y=5229.850	X=3130228.906	1727.9655
HS2	Y=5266.956	X=3130448.722	1734.4560

FOR TENDER

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVB No.	APPROVAL
A	06.12.2019	ISSUED FOR TENDER		S M
B	09.12.2019	RE-ISSUE FOR TENDER		S M

DRAWING APPROVED
ENGINEER :
PR ENG No : .....
SIGNATURE

TITLE	NAME
DRAWER	A JANE
DRAWING CHECK	S BOSE
DESIGNER	S MOME
DESIGN CHECK	N MOSTERT
PROJECT MANAGER	K DE WAAL
PROJECT DIRECTOR	S HAGANS

SCALES AT A1 ON ISO SIZE DRAWING
SCALE 1:100 0 1 2 3 4 5
SCALE 150 0.5 0 1 1

DESIGNER
SMEC
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

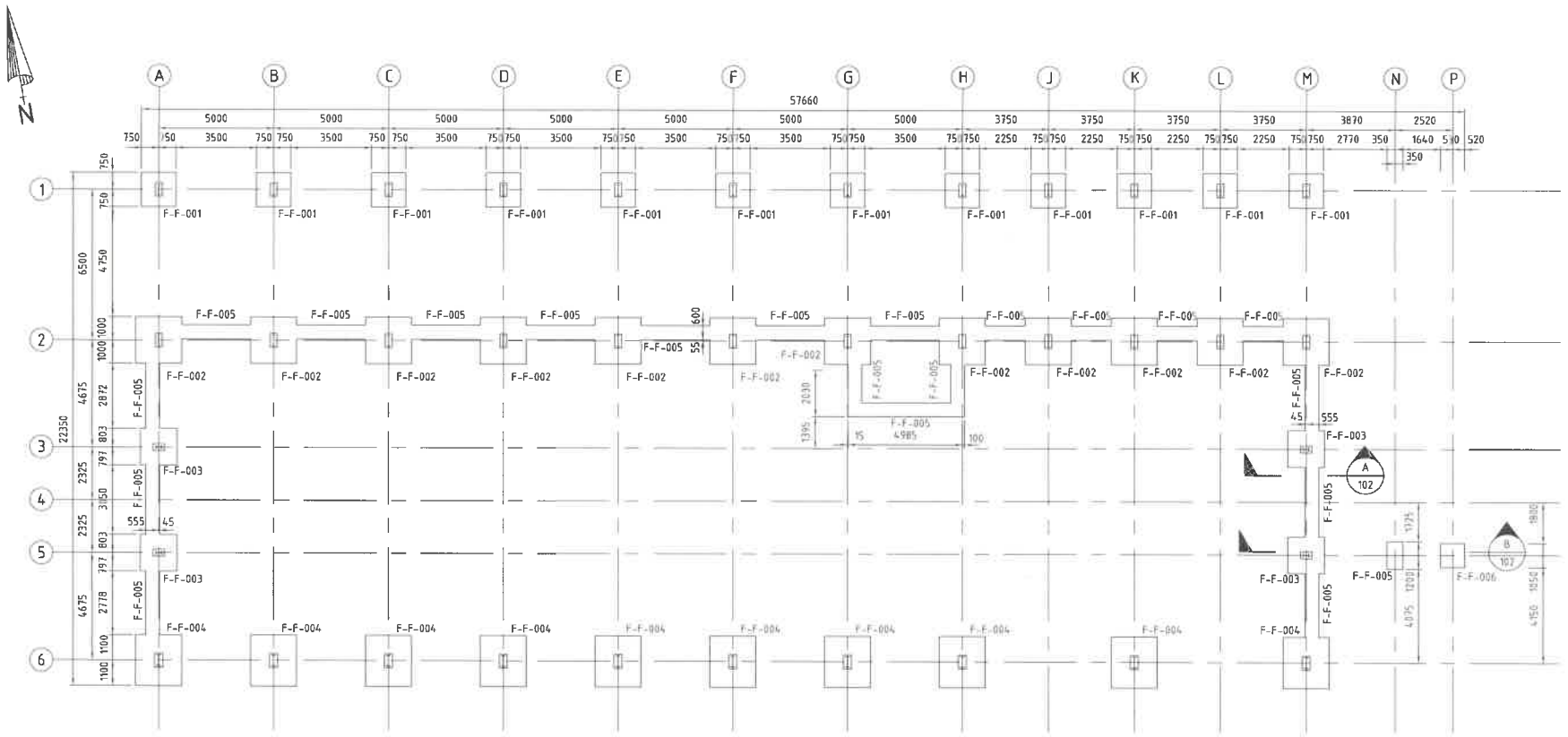
DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMETATION STORE - CIVIL
BULK EARTHWORKS LAYOUT

PHASE	DISCIPLINE	DRAWING NUMBER	REVISION
2	DBE	040	B

FOUNDATION SCHEDULE

FOOTING No.	T.O.C LEVEL	FOOTING SIZE (mm)	PLINTH SIZE (mm)	BASE PLATE SIZE (mm)	HD BOLTS (mm)	HD BLOTS END PLATES (mm)
F-F-001	-0.680	1500x1500x300	300x600x700	115x470x16	4 OFF M16 x 500	50x50x8
F-F-002	-0.680	2000x2000x300	300x600x700	115x470x16	4 OFF M16 x 500	50x50x8
F-F-003	-0.680	1600x1600x300	300x600x700	155x260x16	4 OFF M16 x 500	50x50x8
F-F-004	-0.680	2200x2000x300	300x600x700	175x470x16	4 OFF M16 x 500	50x50x8
F-F-005	-0.680	600x300	-	-	-	-
F-F-006	-0.865	150	-	-	-	-
F-F-007	-1.139	150	-	-	-	-

NOTE:
1. REFER TO DRAWING BCM62-1-DNS-003 & 004 FOR GENERAL NOTES.
2. REFER TO DRAWING BMC62-1-DCN-101 FOR SURFACE BED LAYOUT.
3. REFER TO DRAWING BMC62-1-DCN-102 FOR SECTIONS & DETAILS.



FOUNDATION LAYOUT
SCALE 1:100

FOR TENDER

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No	APPROVAL
A	06.12.2018	ISSUED FOR TENDER	-	S.M
B	08.02.2019	RE-ISSUED FOR TENDER	-	S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.RODS
DRAFTING CHECK	R.TEJA
DESIGNER	[illegible]
DESIGN CHECK	[illegible]
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	[illegible]

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100

DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - STRUCTURAL
FOUNDATION LAYOUT

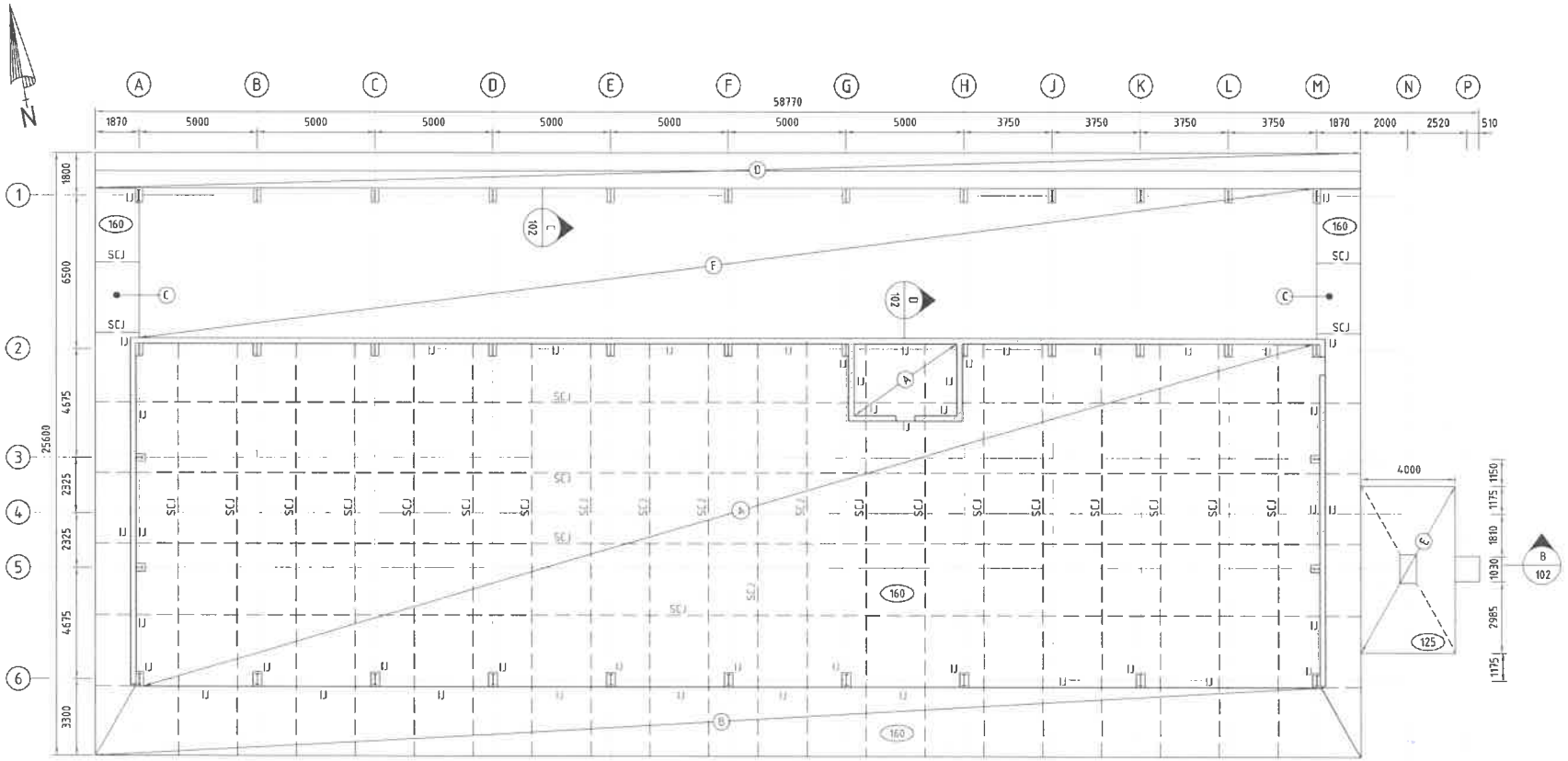
PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
2	DCN	100	B

PLOT DATE: 08 Feb 2019 tpd 06:10:05
DRAWING FILE LOCATION / NAME
150 mm ON ORIGINAL
A1

SURFACE BED SCHEDULE	
SURFACE BED	DESCRIPTION
A	160mm THICK, 35MPa UN-REINFORCED SURFACE BED WITH SCJ 2500mm c/c VERTICALLY & 3000mm c/c HORIZONTALLY. SURFACE BED T.O.C +0.000.
B	160mm THICK, 35MPa UN-REINFORCED SURFACE BED WITH SCJ 2500mm c/c VERTICALLY. ENTRANCE RAMP TOP T.O.C +0.000 WITH A FALL OF 2%.
C	160mm THICK, 35MPa UN-REINFORCED SURFACE BED WITH SCJ 3000mm c/c HORIZONTALLY. SIDE APRON TOP T.O.C +0.085 WITH A FALL OF 2%.

SURFACE BED SCHEDULE	
SURFACE BED	DESCRIPTION
D	160mm THICK, 35MPa REINFORCED WITH MESH REF 245 50mm FORM THE TOP. 250 MICRON DPC BELOW SURFACE BED. V-DRAIN TOP T.O.C +0.000
E	125mm THICK, 35MPa REINFORCED WITH MESH REF 395 50mm FORM THE TOP. 250 MICRON DPC BELOW SURFACE BED. WASHBAY TOP T.O.C TO BE INLINE WITH BOTTOM OF SIDE APRON.
F	NOT A CONCRETE FLOOR. COMPACTED G6 MATERIAL IN 150mm LAYERS.

NOTE:
1. REFER TO DRAWING BCM62-1-DNS-003 & 004 FOR GENERAL NOTES.
2. REFER TO DRAWING BMC62-1-DCN-100 FOR FOUNDATION LAYOUT.
3. REFER TO DRAWING BMC62-1-DCN-102 FOR SECTIONS & DETAILS.



SURFACE BED LAYOUT
SCALE 1:100

FOR TENDER

REV	DATE	AMENDMENT / REVISION DESCRIPTION	MWR No.	APPROVAL
A	06.12.2018	ISSUED FOR TENDER	-	S.M
B	08.02.2019	RE-ISSUED FOR TENDER	-	S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	
DRAFTER	P.HOUS
DRAFTING	R.TEUN
DESIGNER	G.MOREA-SAMUEL
DESIGN CHECK	N.MOSTERT
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100 1 0 1 2 3 4 5

DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

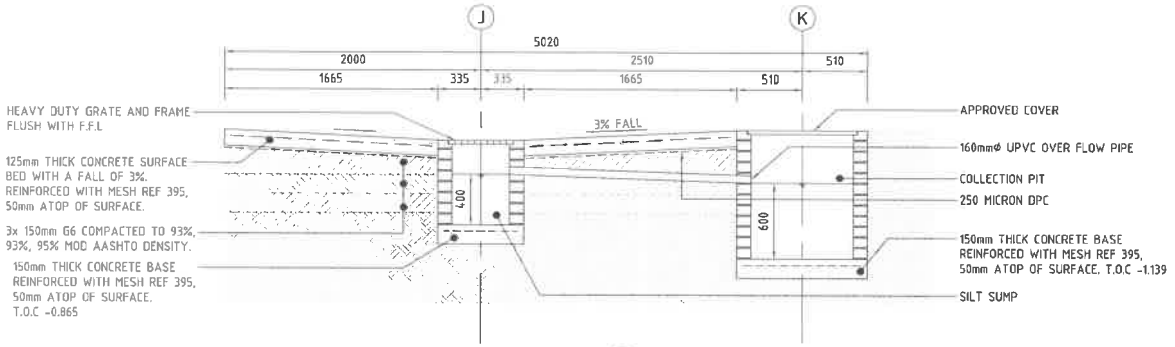
CLIENT
rural development & land reform
Department: Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - STRUCTURAL
SURFACE BED LAYOUT
-

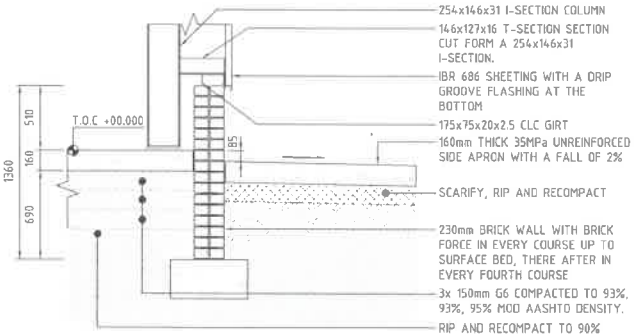
PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
2	DCN	101	B

PLOT DATE 08 Feb 2019 TIME 06:10:52
DRAWING FILE LOCATION / NAME
155 mm ON ORIGINAL
A1

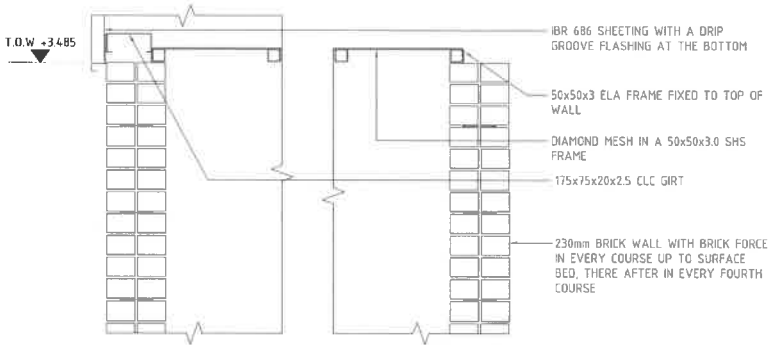
NOTE:
1. REFER TO DRAWING BCM62-1-DNS-003 & 004 FOR GENERAL NOTES.
2. REFER TO DRAWING BMC62-1-DCN-100 FOR FOUNDATION LAYOUT.
3. REFER TO DRAWING BMC62-1-DCN-101 FOR SURFACE BED LAYOUT



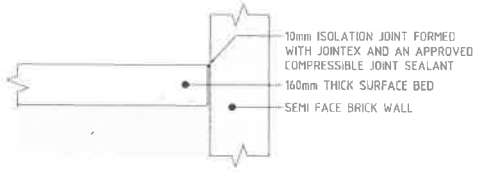
SECTION B
SCALE 1:20



SECTION A
SCALE 1:20

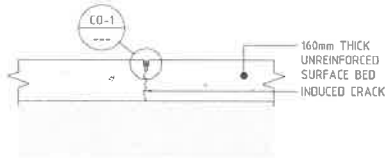


SECTION D
SCALE 1:10



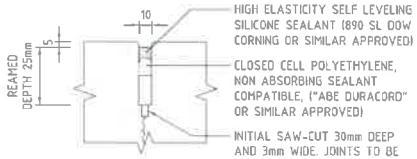
TYPICAL ISOLATION JOIN (IJ)

DETAIL DT-1
SCALE 1:10

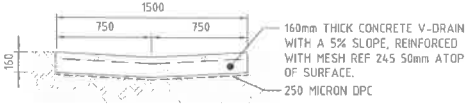


TYPICAL SAW-CUT JOIN (SCJ)

DETAIL DT-2
SCALE 1:10



CALL-OUT CO-1
SCALE 1:2



TYPICAL V-DRAIN SECTION

SECTION C
SCALE 1:20

FOR TENDER

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No	APPROVAL
A	06.12.2018	ISSUED FOR TENDER	-	S.M
B	08.02.2019	RE-ISSUED FOR TENDER	-	S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.RODS
DRAFTING CHECK	R.TEJA
DESIGNER	G.MOREA-SAMUEL
DESIGN CHECK	H.MOSTERT
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:2 0.01 0 0.02 0.04 0.06 0.08 0.1
SCALE 1:10 0.1 0 0.1 0.2 0.3 0.4 0.5
SCALE 1:20 0.2 0 0.2 0.4 0.6 0.8 1.0

DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - STRUCTURAL
SECTIONS & DETAILS

PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
2	DCN	102	B

PLOT DATE 08 Feb 2019 06:14:49
DRAWING FILE LOCATION / NAME
150 mm ON ORIGINAL
A1

LIGHT VEHICLE PAVED ROAD

GRAVEL ROAD

PAVED AREA

BENCHMARKS SYSTEM WG 29°

TR211	Y+5700.410	X+3131524.450	1756.5000	WELVAART (DATUM)
HS1	Y+5229.850	X+3130228.908	1727.9655	12MM IRON PEG IN CONCRETE
HS2	Y+5266.956	X+3130448.222	1734.4560	12MM IRON PEG IN CONCRETE

N

SETTING OUT COORDINATES
WG 29

POINTS	NORTHING	EASTING
P1	5245.398	3130390.656
P2	5235.758	3130388.684
P3	5162.881	3130401.400
P4	5149.854	3130419.818
P5	5153.351	3130440.599
P6	5171.880	3130453.705
P7	5197.025	3130449.317
P8	5220.667	3130445.191
P9	5230.499	3130443.475
P10	5243.518	3130425.007
P11	5234.134	3130405.603
P12	5222.611	3130397.387
P13	5163.965	3130407.258
P14	5155.763	3130418.779
P15	5159.268	3130439.603
P16	5170.849	3130447.795
P17	5195.993	3130443.406
P18	5219.602	3130439.286
P19	5229.485	3130437.561
P20	5237.617	3130425.994
P21	5242.340	3130418.145

SITE PLAN
SCALE 1:1

NOTES:

REFERENCE DOCUMENTS

No.	Date	Revision Description
0	08-11-21	ISSUED FOR INFORMATION

REVISION SCHEDULE

PROJECT
AGRI PARK

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA
DEPARTMENT OF RURAL DEVELOPMENT AND LAND REFORM

SMEC
Member of the Surbana Jurong Group
SABS ISO 9001
23 Second Avenue
WESTDENE
Bloemfontein, South Africa
9301
Website: //www.smec.com
Tel: (051) 411-6700
Fax (051) 447-6000

ENGINEER | PR ENG no. | DATE

CLIENT | DATE

DESIGNED	DRAWN	CHECKED
	W MBATHA	

PROJECT
MAKHOLOKOENG FPSU

DRAWING DESCRIPTION
ROAD SETTING OUT FOR WEIGHBRIDGE

DATE	SCALE	SIZE
08-11-2021	1:1	A3

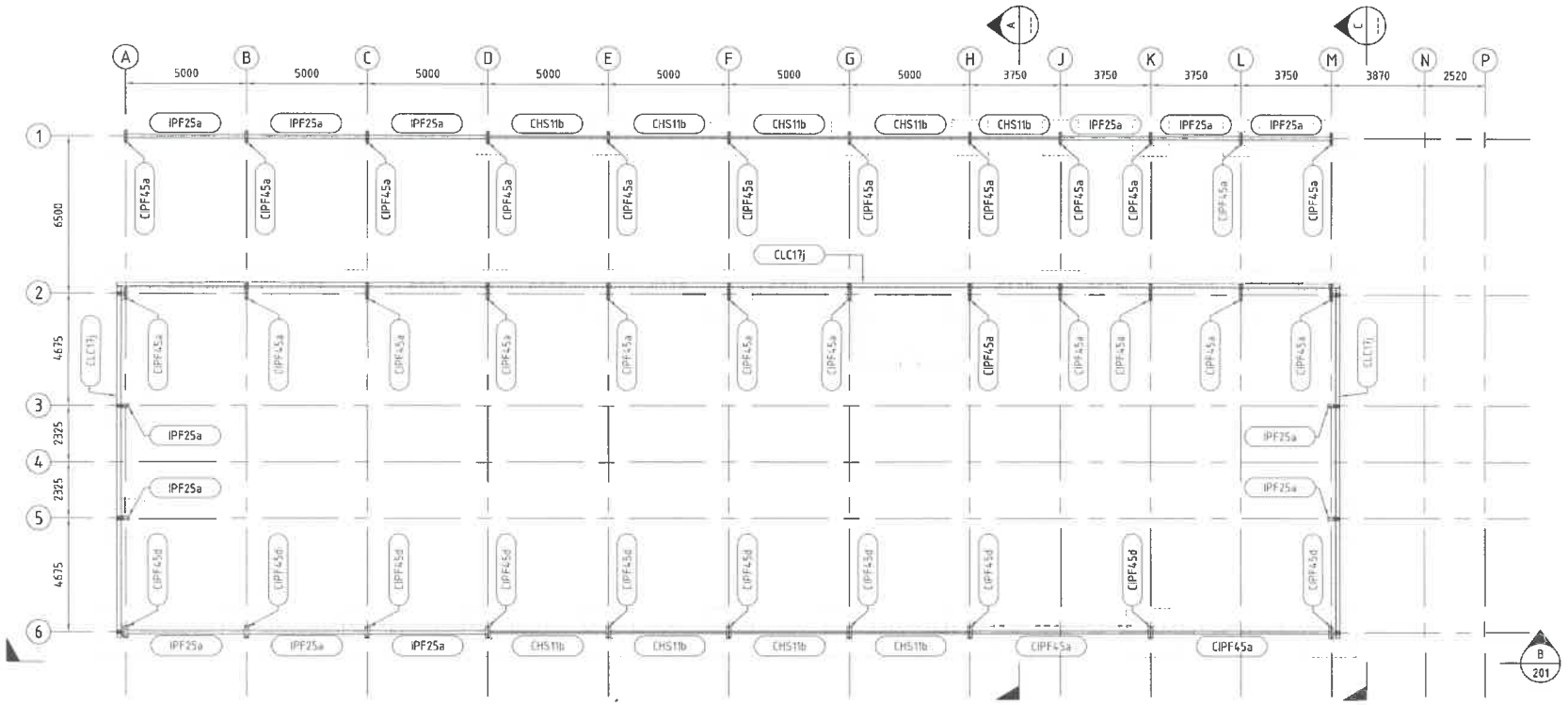
DRAWING NUMBER

PROJ No - PHASE - DISCIPLINE - STAGE - DOC - SERV - LEV - SEQ No - (SHEET)	REV
BCM62-2017	0

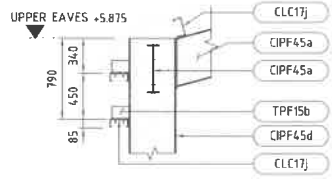
NOTES:

1. REFER TO DRAWING BCM62-1-DNS-003 & 004 FOR GENERAL NOTES.
2. REFER TO DRAWING BCM62-1-DST-201 FOR ROOF LAYOUT AND SECTIONS.

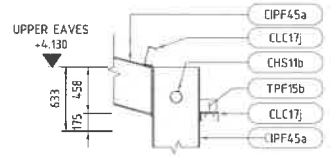
STEEL LEGEND	
CIPF45a	458x102x25 CASTELLATED I-SEC
CIPF45d	458x165x40 CASTELLATED I-SEC
IPF25a	254x146x31 I-SEC
CLC17j	175x75x20x2.5 CLFC
TPF15b	127x146x16 T-SEC
CHS15a	152.4x3.0 CHS
CHS14a	140x3.0 CHS
CHS12b	127x3.0 CHS
CHS11b	114.3x3.0 CHS
CHS07b	76.2x3.0 CHS



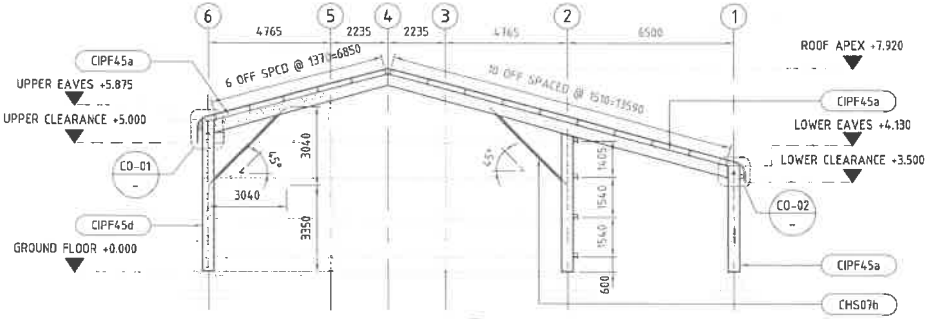
COLUMN AND GIRT LAYOUT
SCALE 1:100



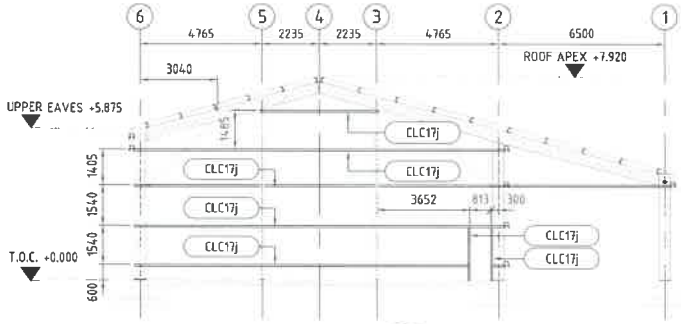
CALL OUT 01
SCALE 1:25



CALL OUT 02
SCALE 1:25



SECTION A
SCALE 1:100



SECTION C
SCALE 1:100

FOR TENDER

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
A	06.12.2018	ISSUED FOR TENDER		S.M
B	08.02.2019	RE-ISSUED FOR TENDER		S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.RUDS
DRAFTING CHECK	R.TEJA
DESIGNER	G.MOREA-SAMUEL
DESIGN CHECK	M.MOSTERT
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100 0 1 2 3 4 5
SCALE 1:25 0.25 0 0.50 1.00

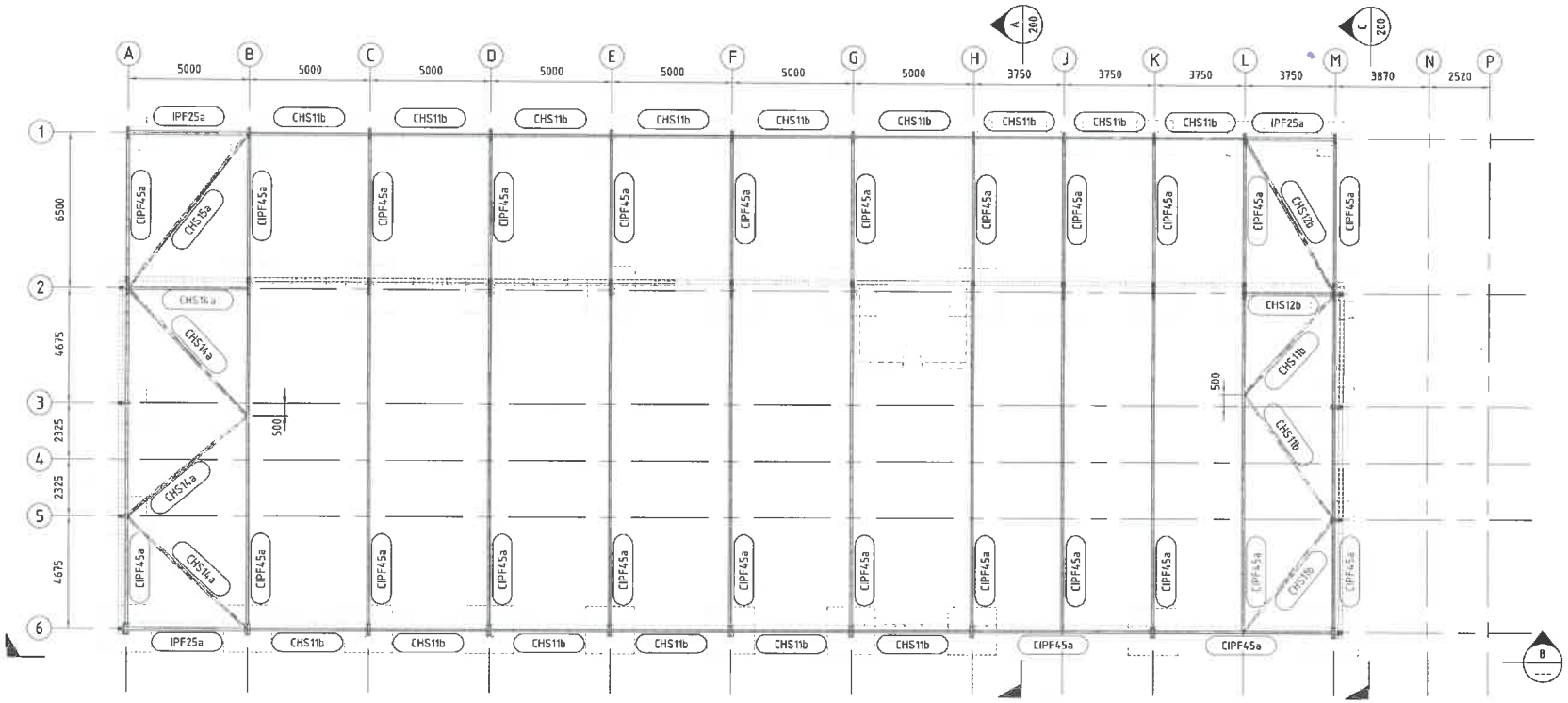
DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

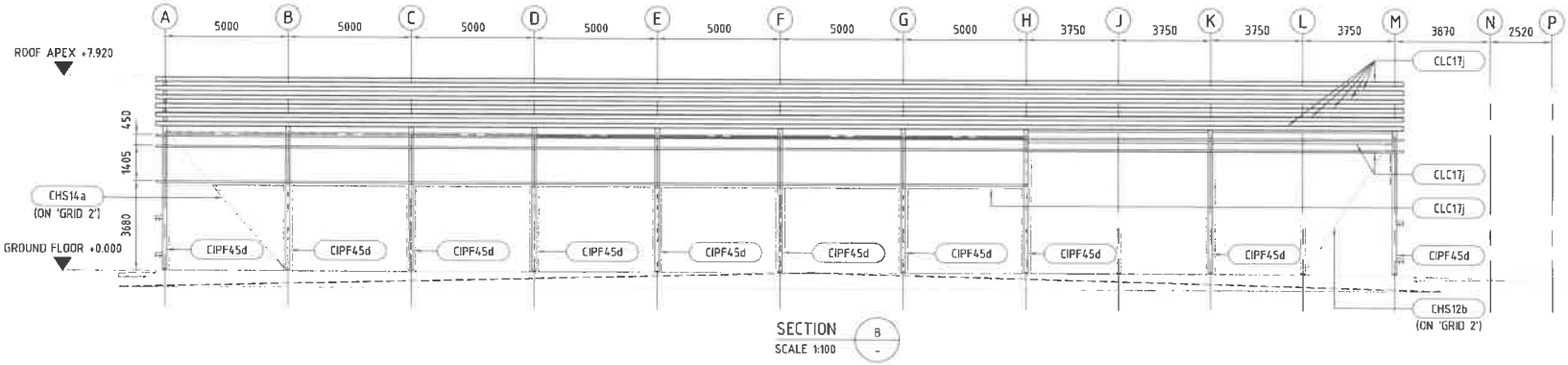
DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - STRUCTURAL
STEEL COLUMN & GIRT LAYOUT, SECTION & DETAILS

PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
2	DST	200	B

PLOT DATE 08 Feb 2019 TIME 06:12:45
DRAWING FILE LOCATION / NAME
150 mm ON ORIGINAL
A1



ROOF LAYOUT
SCALE 1:100



SECTION B
SCALE 1:100

NOTES:

1. REFER TO DRAWING BCM62-1-DNS-003 & 004 FOR GENERAL NOTES.
2. REFER TO DRAWING BCM62-1-DST-200 FOR COLUMN AND GIRT LAYOUT, SECTIONS AND DETAILS.

STEEL LEGEND	
CIPF45a	458x102x25 CASTELLATED I-SEC
CIPF45d	458x165x40 CASTELLATED I-SEC
IPF25a	254x146x31 I-SEC
CLC17j	175x75x20x2.5 CLFC
TPF15b	127x146x16 T-SEC
CHS15a	152.4x3.0 CHS
CHS14a	140x3.0 CHS
CHS12b	127x3.0 CHS
CHS11b	114.3x3.0 CHS
CHS07b	76.2x3.0 CHS

FOR TENDER

REV	DATE	AMENDMENT / REVISION DESCRIPTION	WVR No.	APPROVAL
A	06.12.2018	ISSUED FOR TENDER		S.M
B	08.02.2019	RE-ISSUED FOR TENDER		S.M

DRAWING APPROVED
ENGINEER : .....
PR ENG No. : .....
SIGNATURE : .....

TITLE	NAME
DRAFTER	P.ROOS
DRAFTING CHECK	
DESIGNER	G.MCREA-SAMUEL
DESIGN CHECK	M.MOSTERT
PROJECT MANAGER	E.DE WAAL
PROJECT DIRECTOR	S.MARAIS

SCALES AT AN A1 SIZE DRAWING
SCALE 1:100

DESIGNER
SMEC South Africa
Member of the Surbana Jurong Group
SABS ISO 9001
SMEC PROJECT No BCM62

CLIENT
rural development & land reform
Department:
Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

DESCRIPTION
DEPARTMENT
RURAL DEVELOPMENT AND LAND REFORM
IMPLEMENTATION STORE - STRUCTURAL
ROOF LAYOUT & SECTIONS

PHASE	DRAWING TYPE	DRAWING NUMBER	REVISION
2	DST	201	B

PLOT DATE: 08 FEB 2019 TIME: 06:55:59
DRAWING FILE LOCATION / NAME
150 mm ON ORIGINAL
A1

LEGEND

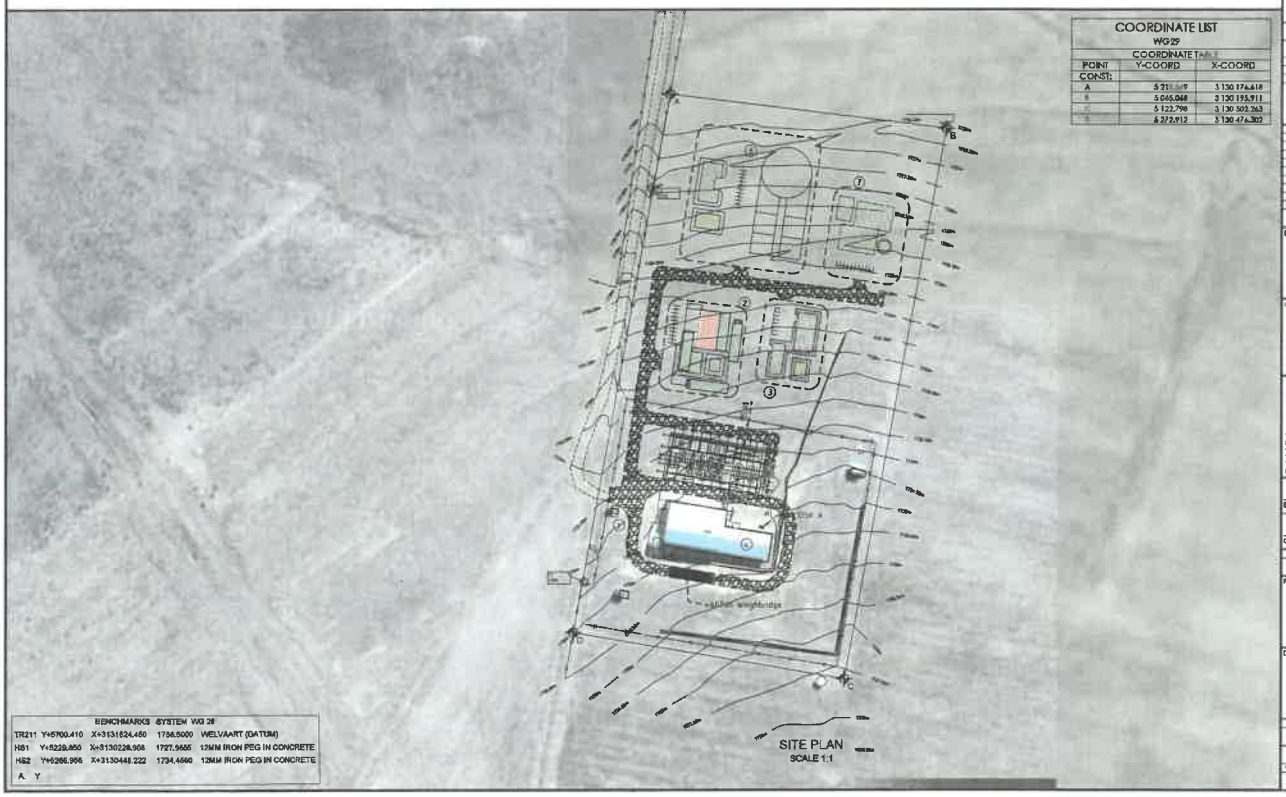
FACILITY NAME	ACILITY SIZE m2	PROPOSED LAND USE	PHASE	AVEMENT ARE	ARKING NO
1 SECURITY OFFICES	27				
2 RECEPTION AND ADMIN OFFICES	440				
3 RETAIL AND TOURISM FACILITY	300				
4 DRY BEAN PROCESSING/PACKING	1300				
5 LOGISTICS CENTER WITH TRAINING WORKSHOP	448				
6 ANIMAL HANDLING FACILITY / TRAINING AND HOLDING PENS	1700				
7 STORAGE UNIT/ FACILITY FOR MOBILE UNITS AND FEED STORE	640				

LIGHT VEHICLE PAVED ROAD

GRAVEL ROAD

PAVED AREA

N



SITE PLAN
SCALE 1:1

COORDINATE LIST
WG29

POINT CONST.	COORDINATES Y-COORD	X-COORD
A	5 [illegible]9	3 130 176.618
B	5 045.048	3 130 193.911
C	5 122.798	3 130 502.263
D	5 273.912	3 130 47[illegible].302

BENCHMARKS SYSTEM WG 29

TR211	Y=5700.410	X=3131624.450	1736.5000	WELVAART (DATUM)
HB1	Y=5239.855	X=3130228.908	1727.9655	12MM IRON PEG IN CONCRETE
HB2	Y=5266.906	X=3130448.222	1734.4660	12MM IRON PEG IN CONCRETE

A Y

NOTES:

REFERENCE DOCUMENTS

REVISION SCHEDULE

PROJECT

CLIENT

rural development & land reform
Department: Rural Development and Land Reform
REPUBLIC OF SOUTH AFRICA

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ENGINEER | PR ENG no. | DATE

CLIENT | DATE

DESIGNED	DRAWN	CHECKED
	W MBATHA	

PROJECT

MAKHOLOKOENG
FPSU

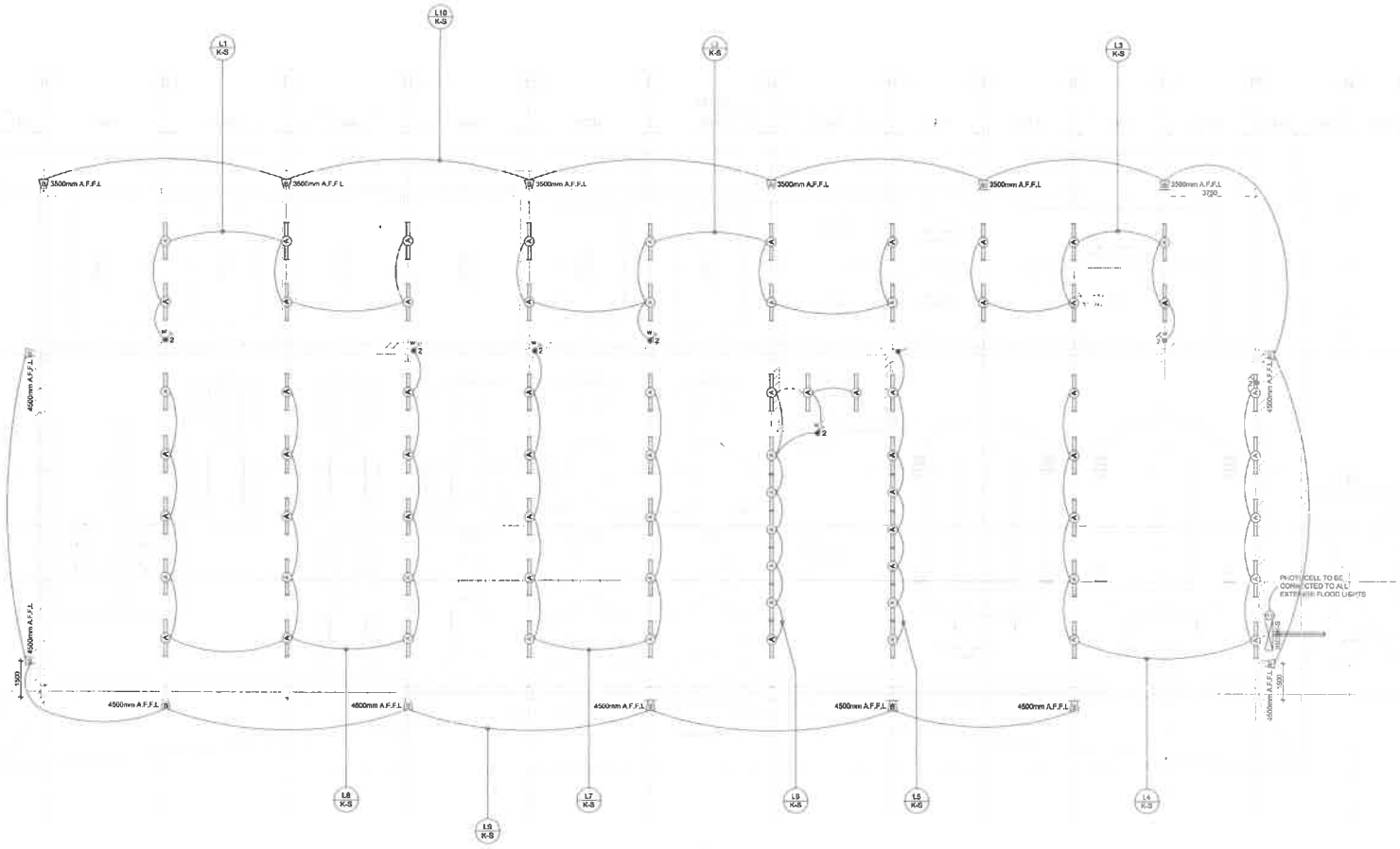
DRAWING DESCRIPTION

CONCEPT
LAYOUT PLAN

DATE	SCALE	SIZE
15-08-2018	1:1	A3

DRAWING NUMBER

BOM52-2017 | 0



LIGHTING LEGEND

A	NIMBUS 1578mm 63W 4000K IP66 LED LIGHT FITTING OR SIMILAR APPROVED MOUNTED TO ROOF TRUSS OR OTHERWISE INDICATED.
	REGENT BODA 200W LED FLOOD LIGHT FITTING WITH STIRRUP BRACKET OR SIMILAR APPROVED. APPROX. MOUNTING HEIGHT AS INDICATED.
	PHOTOCELL
	1 LEVER 1 WAY LIGHT SWITCH @ 1200mm A.F.F.L.
	3 LEVER 1 WAY LIGHT SWITCH @ 1200mm A.F.F.L.
2	1 LEVER 2 WAY LIGHT SWITCH @ 1200mm A.F.F.L. WEATHERPROOF
	DISTRIBUTION KIOSK

NOTES:

1. ALL LIGHT FITTINGS AND CONDUITS TO BE SURFACE MOUNTED.
2. ALL CONDUITS AND DRAW BOXES TO BE GALVANIZED STEEL.

No.	Date	Revision Description
01	07-02-2019	ADDED MORE LIGHT FITTINGS
00	06-12-2018	FOR TENDER ONLY

REVISION SCHEDULE

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker

REFERENCE DOCUMENTS

PROJECT

AGRI PARK

CLIENT

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Department:
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REPUBLIC OF SOUTH AFRICA

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SABS ISO 9001

ENGINEER | PR ENG no. | DATE

CLIENT | DATE

PROJECT

MAKHOLOKOENG FPSU

DRAWING DESCRIPTION

IMPLEMENT STORE LIGHTING LAYOUT

REV DATE	SCALE	SIZE
06-12-2018	1:100	A1

DRAWING NUMBER

PROJECT NO - DISCIPLINE - STAGE - TYPE - SEQ NO	REV
BCM62-EE-T-LL-0001	00

FOR TENDER ONLY

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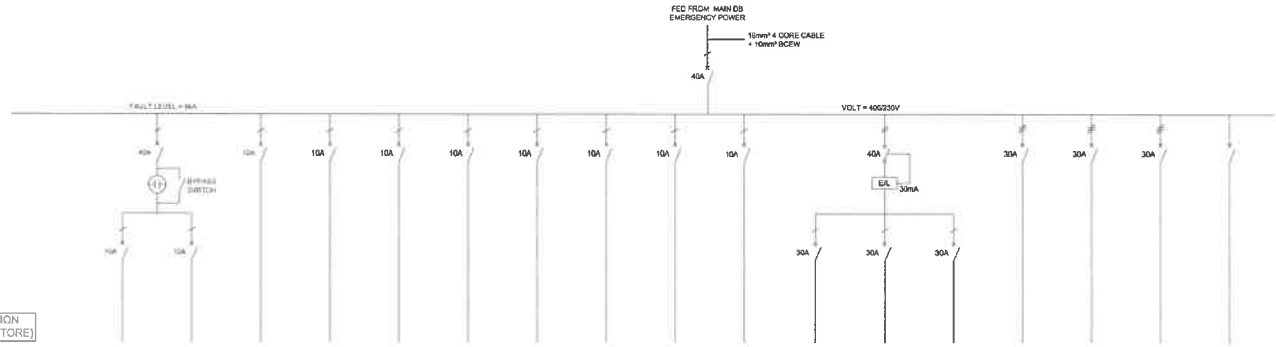
SINGLE LINE DIAGRAM LEGEND	
	SINGLE PHASE
	TWO PHASE
	THREE PHASE
	CIRCUIT BREAKER
	PHOTOCELL



DISTRIBUTION KIOSK S (STORE)

CIRCUIT NUMBER	K-S	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	P1	P2	P3	PP1	PP2	PP3	25% SPARE
CABLE SIZE	16mm² 4 CORE + 16mm² BCEW	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 2.5mm² + 2.5mm² EARTH	2 x 4mm² + 2.5mm² EARTH	2 x 4mm² + 2.5mm² EARTH	2 x 4mm² + 2.5mm² EARTH	2 x 4mm² + 2.5mm² EARTH	2 x 4mm² + 2.5mm² EARTH	2 x 4mm² + 2.5mm² EARTH	

DISTRIBUTION KIOSK REQUIREMENTS:

1. WALL MOUNTED.
2. FAULT LEVEL: 6kA
3. BOTTOM ENTRY
4. RATING: IP56 OUTDOOR PANEL
5. COLOUR: RED

FOR TENDER ONLY

No.	Date	Revision Description
01	07-12-2018	ADDED MORE SOCKETS AND LIGHT FITTINGS
01	06-12-2018	FOR TENDER ONLY

REVISION SCHEDULE

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker

REFERENCE DOCUMENTS

PROJECT

AGRI PARK

CLIENT

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Department:
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SABS ISO 9001

ENGINEER | PR.ENG no. | DATE

CLIENT | DATE

PROJECT

MAKHOLOKOENG FPSU

DRAWING DESCRIPTION

IMPLEMENT STORE
SINGLE LINE DIAGRAM

REV DATE	SCALE	SIZE
06-12-2018	1:100	A1

DRAWING NUMBER

PROJECT NO - DISCIPLINE - STAGE - TYPE - SEQ NO	REV
BCM62-FE-T-SLD-0001	01

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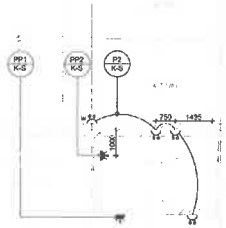
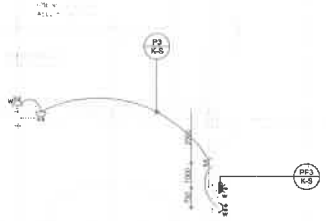
SMALL POWER LEGEND	
	2 x 16A NORMAL SWITCHED SOCKET OUTLET, 1200mm A.F.F.L. - SURFACE MOUNTED
W	2 x 16A NORMAL SWITCHED SOCKET OUTLET, 1200mm A.F.F.L. - SURFACE MOUNTED IN WEATHERPROOF BOX
	3 PHASE SWITCHED SOCKET OUTLET, 1200mm A.F.F.L. - SURFACE MOUNTED
W	3 PHASE SWITCHED SOCKET OUTLET, 1200mm A.F.F.L. - SURFACE MOUNTED IN WEATHERPROOF BOX
	DISTRIBUTION KIOSK

NOTES:

1. ALL SOCKET OUTLETS AND CONDUITS TO BE SURFACE MOUNTED
2. ALL CONDUITS AND DRAW BOXES TO BE GALVANIZED STEEL.
3. ALL OUTLETS TO BE GALVANIZED STEEL
4. CONTRACTOR TO SET OUT CONDUIT ROUTING FOR ENGINEERS APPROVAL.





FOR TENDER ONLY

No.	Date	Revision Description
01	07-03-2019	ADDED MORE SOCKETS OUTLETS
00	06-12-2018	FOR TENDER ONLY

REVISION SCHEDULE

DESIGNED	DRAWN	CHECKED
Designer	Author	Checker

REFERENCE DOCUMENTS

PROJECT

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ENGINEER | PR ENG no. | DATE

CLIENT | DATE

PROJECT

MAKHOLOKOENG FPSU

DRAWING DESCRIPTION

IMPLEMENT STORE SMALL POWER LAYOUT

REV DATE	SCALE	SIZE
06-12-2018	1:100	A1

DRAWING NUMBER

PROJECT NO - DISCIPLINE - STAGE - TYPE - SEQ NO	REV
BCM62-EE-T-SP-0001	01

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