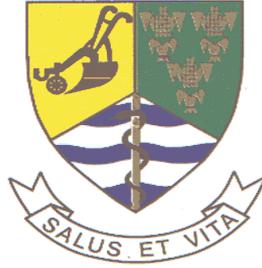


# BELA-BELA LOCAL MUNICIPALITY



## **BID DOCUMENT**

**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

**CLOSING DATE: 01 NOVEMBER 2024**

**CLOSING TIME: 12:00PM**

**A BID FOR CATEGORY 6EP or Higher CIDB REGISTERED CONTRACTORS**

<b>TECHNICAL ENQUIRIES</b>	<b>BIDDING RELATED ENQUIRIES</b>
<p><b>Divisional Manager: Electrical</b> <b>Mr. T.J. Kotsokoane</b> BELA BELA LOCAL MUNICIPALITY 58 Chris Hani Drive <b>BELA BELA</b> 0480</p> <p>Tel: (014) 736 2016 Fax: (014) 736 3288 E-mail: <a href="mailto:KotsokoaneT@belabela.gov.za">KotsokoaneT@belabela.gov.za</a></p>	<p><b>Divisional Manager: SCM</b> <b>Ms. K.J Makgobela</b> BELA BELA LOCAL MUNICIPALITY 58 Chris Hani Drive <b>BELA BELA</b> 0480</p> <p>Tel: (014) 736 8082 Fax: (014) 736 3288 E-mail: <a href="mailto:MakgobelaKJ@belabela.gov.za">MakgobelaKJ@belabela.gov.za</a></p>

**NAME OF BIDDER (BIDDING ENTITY) :** .....

**TEL NUMBER :** .....

**FAX NUMBER :** .....

**THE OFFERED TOTAL OF THE PRICES, INCLUDING VALUE ADDED TAX, IS:**

**R..... (In figures)**



**EXPANDED PUBLIC WORKS PROGRAMME**  
Creating opportunities towards human fulfillment



## LIST OF PROJECT DOCUMENTS

The following documents are relevant to this Bid and Bidders are advised to obtain their own copies thereof:

- 1) "General Conditions of Contract for Construction Works, Third Edition 2015 (GCC 2015) issued by the South African Institution of Civil Engineering (Short title "General Conditions of Contract 2015").
- 2) "Standardized Specifications for Civil Engineering Construction" SANS 1200
- 3) The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulation 20142014 (Government Gazette No 37305 of 07 February 2014, Notice No 10113, Vol 584).
- 4) In addition, Bidders are advised, in their own interest, to obtain their own copies of the following acts, regulations and standards referred to in this document as they are essential for the Bidder to get acquainted with the basics of construction management, the implementation of preferential construction procurement policies and participation of targeted enterprise and labour.
  - a) The Construction Industry Development Board Act No 38 of 2000 and the Regulations in terms of the CIDB Act 38/2000, Government Gazette No 42622 of 8 August 2019
  - b) SANS 1921:2004 Construction and Management
    - Part 1: General Engineering and Construction Works.
    - Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor.
    - Part 5: Earthworks Activities which are to be performed by hand.
  - c) Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000) and its Regulations as published in the Government Gazette No.40553 of 20 January 2017

The Project Document, containing the Bid Notice, Conditions of Tender, Bid Data, Returnable Schedules, General and Particular Conditions of Contract, Project Specifications, Pricing Schedule, Form of Offer and Site Information, is issued by the Employer. The Employer's Form of Acceptance and any correspondence from the selected Bidder, Performance Security and all Addenda issued during the period of bid will also form part of this document once a successful bidder has been appointed.

1) and 2) are available from the following organisations (as applicable):

- **CESA, PO Box 68482, Bryanston, 2021. Tel: (011) 463 2022 Fax: (011) 463 7383, E-mail: [general@cesa.co.za](mailto:general@cesa.co.za)**
- **SAICE, Private Bag X200, Halfway House, 1685. Tel: 011 805 5947/8, E-mail: [civilinfo@saice.org.za](mailto:civilinfo@saice.org.za)**
- **SAFCEC**
- **South African Bureau of Standards**

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**SUMMARY FOR BID OPENING PURPOSES**

NAME OF BIDDING ENTITY: .....

PHYSICAL STREET ADDRESS:	POSTAL ADDRESS:

TELEPHONE NUMBER .....

FAX NUMBER : .....

E-MAIL ADDRESS : .....

CONTRACT PRICE : R.....

(Amount brought forward from the Form of Offer and Acceptance) \*

Signed by authorised representative of the Bidding Entity: .....

DATE: .....

- Should any discrepancy occur between this figure and that stated in the Form of Offer and Acceptance, the latter shall take precedence and apply.

Contractor

Witness 1

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Witness 2

Employer

Witness 1

Witness 2

## **VERY IMPORTANT NOTICE ON DISQUALIFICATION**

A Bid not complying with the peremptory requirements stated hereunder will be regarded as being a not **“Acceptable Bid”** and as such will be rejected.

**“Acceptable Bid”** means any bid which, in all respects, complies with the conditions of the Bid and specifications as set out in the bid document, including conditions as specified in the Preferential Procurement Policy Framework Act No. 5 of 2000, Preferential Procurement Regulations as published in the Government Gazette No. 47452 of 04 November 2022 and related legislations:

1. Attend the compulsory briefing session as scheduled and advertised.
2. Submit bid in the correct bid box.
3. Submit bid before closing date and time.
4. Fill in all the required information in all Forms/ Returnable Schedules. **(See the “Returnable Document Checklist” section of this document)**
5. All bids must be submitted on the official forms provided by the municipality not to be re-typed or electronically filled.
6. Complete all Forms/Schedules in ink. Do not use pencils or correction fluid to make corrections.
7. Make corrections, if necessary, only by placing a line across the words/numbers to be corrected and initial next to the amended text. Do not scratch out, write over rates, paint over rates or use correction fluid.
8. Do not remove pages from the bid document.
9. Ensure that witnesses sign where required.
10. Price the Bill of Quantities in full as required and not only provide lump sums.
11. Submit the applicable completed Authority of Signatory form and attach a certified copy of the members/ director’s resolution/ power of attorney.
12. Only the person authorised to do so may sign the bid offer.
13. Attach to the bid document a copy of a signed Joint Venture agreement (if applicable), with contents as guided in the **Construction Industry Development Board (CIDB) Best Practice Guideline #D2, Joint Venture Arrangements**.
14. Submit written proof of registration with the CIDB, in an appropriate Contractor grading designation of **6EP or Higher** (category), as required in the bid documentation. In the case of a joint venture bidders must submit a consolidated CIDB grading.
15. Submit Company registration documents. In the case of the Joint venture, such documents must be attached for all parties.
16. Submit Certified Copies of Identity Documents for the Director(s) of the Company. In the case of the Joint venture, such documents must be attached for all parties.
17. Attach Audited Annual Financial Statement (AFS) of the company past three (3) financial years or since establishment if establish during the past three (3) financial years for projects exceeding

Contractor

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Witness 2

Employer

Witness 1

Witness 2

R10 million. If the bidder is required by law to prepare the Annual Financial Statement (AFS). In the case of the Joint venture, such documents must be attached for all parties.

18. Submit proof of the Tax Compliance Status (verification Pin) issued by the South African Revenue Services (SARS) or Proof that necessary arrangements have been made to meet outstanding tax obligations. In the case of the Joint venture, such documents must be attached for all parties.
19. The Form of offer (**Part C1.1**) must be completed and signed by the authorised signatory.
20. Submit a certified copy of the valid letter of good standing for Workmen's compensation with the Department of Labour in terms of Compensation for Occupational Injuries and Diseases Amendment Act, No.61 of 1997 (as amended). In the case of the Joint venture, such documents must be attached for all parties.
21. Submit Municipal Rates and Taxes Accounts of both the Director(s) and the Company not older than ninety (90) days from the date of tender closure.

A lease agreement may be submitted where applicable but must also be accompanied by a Municipal Rates and Taxes Account of the leased property where the Lessee is responsible for such an account. If the Lessee is not responsible for the Municipal Rates and Taxes account, then a statement of account must be submitted as evidence that the Lessee has met their obligations.

If Municipal Rates & Taxes Account submitted is not in the name of the Company and/or any of the Directors, a written affidavit stating how the Account relates to the said Company and/or Director must be submitted. In the case of the Joint venture, such documents must be attached for all parties.

22. Submit proof of registration with the **Central Data Base** (CSD) of the National Treasury. In the case of the Joint venture, such documents must be attached for all parties.

Furthermore, the bid will be considered as not acceptable if:

23. The bidder does not have key staff that satisfy EPWP requirements for Labour Intensive Construction methods/ skills.
24. The bidder attempts to influence or has in fact influenced the evaluation of the bid and/or the awarding of the contract.
25. The bidder during the last 5 years has failed to perform satisfactorily on a previous contract with the municipality, municipal entity or any other organ of state after written notice was given to that bidder that performance was unsatisfactory.
26. The bidder or any of his directors is listed on the Register of Bid Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector.
27. The bidder has abused the Bela-Bela LM's Supply Chain Management System.

Contractor

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- 28. The bidder and any of its directors are in arrears for more than ninety (90) days for any municipal rates and taxes owed to the Bela-Bela LM or any other Municipality.
- 29. Irrespective of the procurement process followed, no award may be given to a person-
  - a) who is in the service of the state, or
  - b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or
  - c) who is an advisor or consultant contracted with the municipality in respect of contract that would cause a conflict of interest.
- 30. The bidder may only submit a bid on the original documentation provided by the Bela-Bela LM.
- 31. The Bidder cannot submit more than one bid for the same project.
- 32. The Bidder must attach certified proof of Vendor Registration for Substation Projects, with Eskom. In case of Joint Venture, all Companies/bidders must submit the proof of Vendor Registration for Substation projects with Eskom.

**PLEASE NOTE:**

- a. **Section 217 of the constitution of the Republic of South Africa requires an organ of state to contract for goods and services in accordance with a system which is fair, equitable, transparent, competitive and cost effective.**
- b. **The lowest bid / proposal will not necessarily be accepted, and the Municipality reserves the right to accept where applicable a part or portion of any bid or where possible accepts bids or proposals from multiple bidders.**
- c. **Municipal Supply Chain Management policy and Preferential Procurement Policy Framework Act No 5 of 2000 and its regulations will be applied.**
- d. **In this document and other documents referred to but not attached, the following words are synonymous with each other:**
  - a) **Client, Employer, Bela-Bela Local Municipality**
  - b) **Bidder, Contractor, Service Provider**
  - c) **Bid and Tender and Variations Thereof**
  - d) **Joint Venture / Consortium**

**APPROVED BY:**

**Mr T.G RAMAGAGA**  
**Municipal Manager**  
**Bela-Bela Local Municipality**

Contractor

Witness 1

<sup>7</sup>  
  
Witness 2

Employer

Witness 1

Witness 2

**RETURNABLE DOCUMENT CHECKLIST**

Bidders to complete this checklist to ensure that all information in the Bid Document is completed, included and read by the Bidder.

DESCRIPTION	OUTCOME IF NOT COMPLIED WITH	COMPLETED / INCLUDED/ READ
-------------	------------------------------	----------------------------

All pages requiring signatures signed by the Bidder (Authorized Person)	Non-responsive, bid eliminated	<input type="checkbox"/>
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Correct bid offer amount on BOQ carried forward to Bid Summary and the Form of offer	Non-responsive, bid eliminated	<input type="checkbox"/>
--	--------------------------------	--------------------------

**RETURNABLE SCHEDULES (SECTION T2.1)**

Record of Addenda to Bid Document – Form A	Non-responsive, bid eliminated	<input type="checkbox"/>
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Schedule of Amendments, Qualifications and Alterations – Form B	Non-responsive, bid eliminated	<input type="checkbox"/>
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Certificate of Authority for Signatory – Form C	Non-responsive, bid eliminated	<input type="checkbox"/>
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Compulsory Declaration – Form D	Non-responsive, bid eliminated	<input type="checkbox"/>
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Declaration of Good Standing Regarding Tax (MBD 2) – Form E	Non-responsive, bid eliminated	<input type="checkbox"/>
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Declaration of Interest (MBD 4) – Form F	Non-responsive, bid eliminated	<input type="checkbox"/>
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Municipal Declaration and returnable documents (MBD 5.1) – Form G	Non-responsive, bid eliminated	<input type="checkbox"/>
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Audited Annual Financial Statements for the past three (3) years (MBD 5.2) – Form H	Non-responsive, bid eliminated	<input type="checkbox"/>
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Municipal Utility account (MBD 5.3) – Form I	Non-responsive, bid eliminated	<input type="checkbox"/>
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Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022 (MBD 6.1) – Form J	Non-responsive, bid eliminated	<input type="checkbox"/>
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Declaration of Bidder’s Past Supply Chain Management Practices (MBD 8) – Form K	Non-responsive, bid eliminated	<input type="checkbox"/>
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

DESCRIPTION	OUTCOME IF NOT COMPLIED WITH	COMPLETED / INCLUDED/ READ
Certificate of Independent Bid Determination (MBD 9) – Form L	Non-responsive, bid eliminated	<input type="checkbox"/>
Financial References – Form M	Non-responsive, bid eliminated Information or bank history not available. (Evaluated as possible risk)	<input type="checkbox"/>
Valid Letter of good standing for the Workmen’s compensation with the Department of Labour – Form N	Non-responsive, bid eliminated	<input type="checkbox"/>
Proposed key Personnel – Form O	Non-responsive, bid eliminated No designated personnel, possible risk on experience to carry out the works.	<input type="checkbox"/>
Schedule of Works Previously Executed – Form P	Non-responsive, bid eliminated Regarded as Bidder with no experience	<input type="checkbox"/>
Schedule of Present Commitments – Form Q	Non-responsive, bid eliminated	<input type="checkbox"/>
Schedule of Plant and Equipment – Form R	Non-responsive, bid eliminated Regarded as Bidder with limited Resources	<input type="checkbox"/>
Functionality Criteria and Points claimed by Bidder – Form S	Non-responsive, bid eliminated Regarded as Bidder with limited Resources and less experience to carry out the works.	<input type="checkbox"/>
Schedule of Labour Content – Form T	Non-responsive, bid eliminated	<input type="checkbox"/>

Contractor

Witness 1

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**CONTRACT DATA (SECTION C1.1 AND C1.2)**

Form of offer not signed Non-responsive, bid eliminated

Contract Data (Part 2: Data provided by the Contractor) Non-responsive, bid eliminated

**PRICING DATA (SECTIONS C2.1 – C2.3)**

Schedule of Quantities (All items in black ink) Refer to pricing Instructions

Calculation of Bid Sum Refer to pricing Instructions

**REASON FOR NON-COMPLIANCE**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONTACT DETAILS**

Office Phone No. \_\_\_\_\_

Office Fax No. \_\_\_\_\_

Cell Phone No. \_\_\_\_\_

--	--

**SIGNED ON BEHALF OF BIDDER**

**DATE**

Contractor

Witness 1

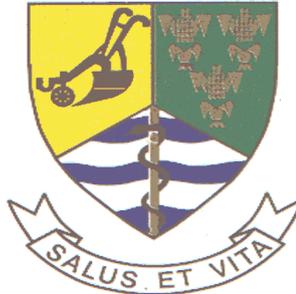
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

## **PORTION 1: THE TENDER**

**PART T1 TENDERING PROCEDURES**

T1.1 Tender notice and invitation to tender

T1.2 Tender Data

**PART T2 RETURNABLE DOCUMENTS**

T2.1 List of returnable documents

T2.2 Returnable documents

Contractor

Witness 1

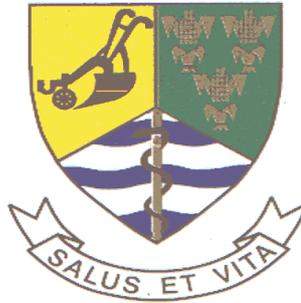
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
PHASE 1**

<b>PART T1: TENDERING PROCEDURES</b>
--------------------------------------

Contractor

Witness 1

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Employer

Witness 1

Witness 2

## BELA-BELA LOCAL MUNICIPALITY



### T.1.1 TENDER NOTICE AND INVITATION TO BID

Suitably qualified Service Providers are hereby invited to submit bids for the following:

BID NUMBER	DESCRIPTION	EVALUATION CRITERIA	PRICE PER DOCUMENT (Non-Refundable)	CIDB GRADING	COMPULSORY BRIEFING SESSION	CONTACT PERSON	CLOSING DATE AND TIME
9/3/1/394	Construction of 132/11KV 2 X 20MVA Bela Bela Substation (Phase 1)	<b>80/20</b> <ul style="list-style-type: none"> <li>Price</li> <li>Specific Goals</li> </ul>	R 1 500.00 or downloadable from e-tender portal	6EP or Higher	<b>Date:</b> 04 October 2024 <b>Time:</b> 10h00am <b>Venue:</b> Entrance of the Municipal Office, 59 Chris Hani Drive, Bela-Bela.	Mr. K. Kotsokoane Tel: 014 736 2016 Cell: 072 806 2089 e-mail: <a href="mailto:KotsokoaneT@belabela.gov.za">KotsokoaneT@belabela.gov.za</a> <b>and</b> Mr. L. Motsene Tel: 015 196 0245 e-mail: <a href="mailto:Info@voltconsulting.co.za">Info@voltconsulting.co.za</a>	01 November 2024 at 12:00pm
<b>Documents are available from:</b> Records Offices 1 <sup>st</sup> floor Room F58 59 Chris Hani Drive Bela-Bela, 0480				<b>All Applications must be submitted at:</b> Bela-Bela Local Municipality In the Tender Box placed at the Records office Room F58 Chris Hani Drive Bela-Bela, 0480			
<b>All Tender documents are available from 27 September 2024</b>							

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Contractor

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Employer

Witness 1

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**All Supply Chain Management (SCM) queries must be directed to:**

Ms. K.J Makgobela

Tel: (014) 736 8082

e-mail : [MakgobelaKJ@belabela.gov.za](mailto:MakgobelaKJ@belabela.gov.za)

1. Bidders must submit a Tax compliance verification pin on a SARS letterhead.
2. In the case of the Joint venture the Tax Compliance Verification Pin of all parties must be attached.
3. A certified copy of a Company Registration Certificate reflecting names and identity numbers of active shareholding must be attached (except for Sole Traders and Partnerships). In the case of the Joint venture, such documents must be attached for all parties.
4. A copy of a JV agreement (in case of JV) must be attached.
5. Municipal Rates & Taxes Account of the Director(s) and the Company not older than 90 days from the closing date of the tender must be attached. The Bidder will be disqualified if any of the attached Municipal Rates and Taxes Accounts are in arrears for more than 90 days. In the case of the Joint venture, such documents must be attached for all parties.
6. All supplementary / compulsory forms contained in the bid document must be completed and signed in full.
7. Bidder must attach Audited Annual Financial Statement (AFS) of the company past three (3) financial years or since establishment if establish during the past three (3) financial years for projects exceeding R10 million. If the bidder is required by law to prepare the Annual Financial Statement (AFS). In the case of the Joint venture, such documents must be attached for all parties.
8. Bidders must attach full report of the **Central Supplier Database** (CSD) of the National Treasury, in case of Joint Venture bidders must submit full report of the Central Data Base (CSD) of the National Treasury for both partners.
9. Bidders must attach certified copies of qualifications for key personnel to demonstrate compliance with EPWP requirements for experience in Labour Intensive Construction methods/ skills.
10. The Bidder must attach certified proof of Vendor Registration for Substation Projects, with Eskom. In case of Joint Venture, all companies/bidders must submit the proof of Vendor Registration for Substation projects with Eskom.
11. Bids received will be evaluated in terms of the 80/20 Price/Specific goals as prescribed in the amended Preferential Procurement Policy Framework Act (No 5 of 2000). The specific goals will be allocated as indicated in the table below:

<b>Category of persons</b>	100% Youth owned = 5 points, more than or equals to 51% Youth owned = 3 points, less than 51% Youth owned = 1 point Maximum of 5 points
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Contractor

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Witness 2

Employer

Witness 1

Witness 2

<b>Gender</b>	100% Women owned = 5 points, more than or equals to 51% Women owned = 3 points, less than 51% Women owned = 1 point Maximum of 5 points
<b>Race</b>	100% Black owned = 5 points, more than or equals to 51% Black owned = 3 points, less than 51% Black owned = 1 point Maximum of 5 points
<b>Disability</b>	100% people with Disability owned = 5 points, more than or equals to 51% people with Disability owned = 3 points, less than 51% people with Disability owned = 1 point Maximum of 5 points

12. Failure to comply with the above-mentioned conditions may invalidate your Bid.

**Please Note:**

1. Section 217 of the constitution of the Republic of South Africa requires an organ of state to contract for goods and services in accordance with a system which is fair, equitable, transparent, competitive, and cost effective.
2. No application(s) will be accepted from a person in the service of the state.
3. No telegraphic, telefax and late applications will be accepted.
4. The lowest bid / proposal will not necessarily be accepted, and the Municipality reserves the right to accept where applicable a part or portion of any bid or where possible accepts bids or proposals from multiple bidders.
5. The Municipal Supply Chain Management Policy and Preferential Procurement Policy Framework Act No 5 of 2000 and its regulations will be applied.

**Mr. TG RAMAGAGA  
MUNICIPAL MANAGER**

**Notice Number: 89/24**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

# MBD 1

## INVITATION TO BID

<b>YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE BELA-BELA LOCAL MUNICIPALITY</b>					
BID NUMBER:	<b>9/3/1/394</b>	CLOSING DATE:	<b>01 November 2024</b>	CLOSING TIME:	<b>12:00PM</b>
DESCRIPTION	<b>Construction of 132/11KV 2 X 20MVA Bela Bela Substation (Phase 1)</b>				
<b>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO CONCLUDE A WRITTEN CONTRACT WITH THE CLIENT.</b>					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS):

**Bela-Bela Municipal Offices:** 59 Chris Hani Drive,  
 Bela-Bela  
 0480

**Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration.**

The bid box is generally open from 7:30 – 15:00pm, Monday - Fridays a week.

<b>SUPPLIER INFORMATION</b>					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		<b>OR</b>	CSD No:	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]
TOTAL NUMBER OF ITEMS OFFERED		TOTAL BID PRICE	R
SIGNATURE OF BIDDER	.....	DATE	
CAPACITY UNDER WHICH THIS BID IS SIGNED			
<b>BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:</b>		<b>TECHNICAL INFORMATION MAY BE DIRECTED TO:</b>	
DEPARTMENT	Supply Chain Management	Technical Services	
CONTACT PERSON	Ms. K.J Makgobela	Mr. T.J. Kotsokoane	
TELEPHONE NUMBER	(014) 736 8201	(014) 736 8041	
FACSIMILE NUMBER	(014) 736 3288	N/A	
E-MAIL ADDRESS	<a href="mailto:MakgobelaKJ@belabela.gov.za">MakgobelaKJ@belabela.gov.za</a>	<a href="mailto:KotsokoaneT@belabela.gov.za">KotsokoaneT@belabela.gov.za</a>	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**TERMS AND CONDITIONS FOR BIDDING**

<b>1. BID SUBMISSION:</b>
<p>1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.</p> <p>1.2. <b>ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED (NOT TO BE RE-TYPED) OR ONLINE</b></p> <p>1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.</p>
<b>2. TAX COMPLIANCE REQUIREMENTS</b>
<p>2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.</p> <p>2.2 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.</p> <p>2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE 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.</p> <p>2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART 3.</p> <p>2.5 BIDDERS MUST ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.</p> <p>2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.</p> <p>2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.</p>
<b>3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS</b>
<p>3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?  <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?  <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?  <input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?  <input type="checkbox"/> YES <input type="checkbox"/> NO</p>

Contractor

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3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?

YES  NO

**IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.**

**NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.  
NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.**

SIGNATURE OF BIDDER: .....

CAPACITY UNDER WHICH THIS BID IS SIGNED: .....

DATE: .....

Contractor

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## T1.2 TENDER DATA

The Conditions of Tender applicable to this contract are the Standard Conditions of Tender as contained in Annexure C of the CIDB Standard for Uniformity in Construction Procurement (8 August 2019) as published in Government Gazette No. 42622, Board Notice 423 of 2019.

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

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

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
1.1	Actions	<p>The Employer is:  <b>Bela-Bela Local Municipality</b>            Private Bag x 1609            Bela-Bela            0480</p> <p>The term "bid" in the context of this standard is synonymous with the term "tender".</p>
1.1.1	Actions	<p>The Employer and each Bidder 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 Clauses 2 and 3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.</p>
1.2	Bid Document	<p>The Bid Document issued by the Employer comprises of one (01) volume.</p> <p>The volume consists of the following:</p> <p><b>THE TENDER</b></p> <p><b>Part T1: Tendering Procedures</b></p> <p>T1.1 Tender Notice and invitation to bid            T1.2 Tender Data</p> <p><b>Part T2: Returnable Documents</b></p> <p>T2.1 List of Returnable documents            T2.2 Returnable schedules forms            C1.1 Form of Offer and Acceptance (Yellow)            C1.2 Contract Data (White)            C2.2 Bill of Quantities (Yellow)</p> <p><b>THE CONTRACT</b></p> <p><b>Part C1: Agreements and Contract Data</b></p> <p>C1.1 Form of Offer and Acceptance (Yellow)            C1.2 Contract Data (White)            C1.3 Performance Guarantee (White)</p>

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
		<p><b>Part C2: Pricing Data</b>            C2.1 Pricing Instructions (Yellow)            C2.2 Bill of Quantities (Yellow)</p> <p><b>Part C3: Scope of Work</b>            C3 Scope of Work</p> <p><b>Part C4: Site Information, specifications and special conditions</b>            C4.1 Site Information            C4.2 Specification            C4.3 Special Conditions</p>
1.3.2	Interpretation	The Standard Conditions of Tender, the Bid Data, List of Returnable Documents and Returnable Schedules which are required for the bid evaluation purposes, shall also form part of the Contract arising from the invitation to Tender.
1.3.4	Add the following new clause 1.3.4 on Interpretation.	The Bid Documents have been drafted in English. The Contract arising from the invitation of tender shall be interpreted and constructed in English.
1.4	Communication and Employer's Agent	<p>Communication and Employer's Agent (also known as the Engineer):</p> <p><b>Volt Consulting Engineers</b>            Suite 13 Ficus Park            15 Pierre Street            Bendor            Polokwane            Postal Code: 0699            Tel No: (+27) (15) 296 0245            Contact person: Mr. L. Motsene            e-mail: <a href="mailto:info@voltconsulting.co.za">info@voltconsulting.co.za</a></p> <p>Each communication between the employer and a bidder shall be to or from the employer's agent only, and in a form that can be read, copied and recorded, and in the language stated in the tender data. The employer shall not take any responsibility for non-receipt of communications from or by a bidder. The name and contact details of the employer's agent are stated in the tender data.</p> <p>The language for communications is <b>English</b></p>
1.5.1	Cancellation and Re-invitation of Tenders	The employer 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. (d) there is material irregularity in the tender process
1.5.4	Add the following new	The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
	clause 1.5.4 on Cancellation.	tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a Bidder for such cancellation and rejection but shall give written reasons for such action upon written request to do so.
1.6.1	Procurement procedures: General	Unless otherwise stated in the tender data, a contract shall, subject to 3.13, be concluded with the Bidder who, in terms of 3.11, is the highest ranked or the Bidder scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.
1.6.2	Procurement procedures: Competitive Negotiation Procedure	<p>Replace the contents of the clause with the following:</p> <p>The Municipal Manager may negotiate the final terms of a contract with an identified Bidder through a competitive bidding process as a preferred Bidder provided that such negotiation;</p> <ul style="list-style-type: none"> <li>a) Does not allow any preferred Bidder a second or unfair opportunity,</li> <li>b) It is not to the detriment of any other Bidder, and</li> <li>c) Does not lead to a higher price than the bid as submitted.</li> </ul> <p>Minutes of such negotiation will be kept for record purposes.</p>
2.1	Tenderer's obligations: Eligibility	<p>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.</p> <hr/> <p>Only those Bidders who satisfy the following criteria are eligible to submit bids:</p> <ul style="list-style-type: none"> <li>• Only Bidders who employ staff which satisfy EPWP requirements are eligible to submit bids. The Bidder must have a staff member who has completed, or, is registered for training towards, the NQF level 5-unit standards "Manage Labour Intensive Construction"</li> <li>• Only those Bidders who are registered with the National Treasury Central Service Provider Data Base (CSD)</li> <li>• Only those Bidders who are registered with the CIDB, in a Contractor Grading equal to <b>6EP</b> or higher than a Contractor Grading designation determined in accordance with the sum offered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a 6EP or Higher Class of construction work, are eligible to submit Bids.</li> <li>• Only those Bidders who are registered (For Substation Projects), with Eskom</li> </ul> <p>Joint Ventures are eligible to submit bids provided that:</p> <ul style="list-style-type: none"> <li>• Every member of a Joint Venture is registered with the CIDB within 10 days from the closing date of Bids;</li> </ul>

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
		<ul style="list-style-type: none"> <li>The lead partner has a Contractor Grading Designation in the <b>6EP</b> or Higher class of construction work; and,</li> <li>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 offered for a <b>6EP</b> or Higher class of construction work, is eligible to submit Bids.</li> </ul>
2.2.1	Tenderer's obligations: Cost of tendering	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 comply with requirements.
2.2.3	Add the following to the clause 2.2.3 of the Tenderer's obligations: Cost of tendering	<p>A non-refundable Bid deposit of <b>R1 500.00</b> payable in cash or by bank guaranteed cheque made out in favour of the Bela-Bela Local Municipality, is required on collection of the Bid documents.</p> <p>Accept that the Employer will not compensate the Bidder for any costs incurred in attending interviews in the office of the employer or the Employer's agent (if required).</p>
2.3	Check documents	Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.
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.
2.5	Reference Documents	<p>The document "<b>General Conditions of Contract for Construction Works, Third Edition 2015 (GCC 2015)</b>" of the South African Institute of Civil Engineers.</p> <p>Bidders, Contractors and Sub-Contractors shall obtain their own copies of this document for Bidding purposes and for use for the duration of the Contract from:</p> <p>The Secretary  <b>South African Institution of Civil Engineering</b>  Private Bag X200  <b>Halfway House</b>  1685  OR  <b>SAICE House</b>  Block 19  Thornhill Office Park  Becker Street  <b>Midrand</b>  Tel. 011 805 5947</p> <p>and shall bear all expenses in this regard.</p>

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
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.
2.7	Site Visit and Clarification Meeting	<p>A compulsory site visit and clarification meeting will be held as follows:</p> <p><b>Location:</b> Entrance of the municipal offices, 59 Chris Hani Drive, Bela-Bela  <b>Date:</b> 04 October 2024  <b>Starting time:</b> 10h00am</p> <p>Bidders must sign the attendance list in the name of the bidding entity.</p> <p>Addenda will be issued to and Bids will be received only from those Bidding entities appearing on the attendance list of the compulsory briefing session.</p>
2.8	Seeking Clarification	<p>Replace the contents of the clause with the following:</p> <p>Request clarification of the Bid Documents, if necessary, by notifying the Employer's Official or the Employer's Agent indicated in the Bid Notice and Invitation to Bid (Section T1.1) in writing at least five (5) working days before the closing time stated in clause 2.15.</p>
2.11	Alterations to Document	<p>Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the Employer or to correct errors made by the Bidder. To correct errors made, draw a line through the incorrect entry and write the alteration above in black ink and write the initials of the authorised signatories next to the alteration.</p> <p>Do not make erasures using masking fluid.</p>
2.12.1	Alternative Bid Offers	No alternative offers will be accepted
2.13	Submitting of Bid Offer	<p>Add the following to the clause:</p> <p>No claim will be entertained for faults in the Offer Price resulting from any discrepancies, omissions or indistinct figures.</p>
2.13.1		Each Bidder 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.
2.13.3		Parts of each Bid Offer communicated on paper shall be submitted as an original plus <b>zero</b> copies.

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
2.13.4		<p>Add the following to the clause:</p> <p>“Only authorised signatories may sign the original and all copies of the Bid Offer where required in terms of 2.13.3.</p> <p>In the case of a ONE-PERSON CONCERN submitting a Bid, this shall be clearly stated.</p> <p>In case of a COMPANY submitting a Bid, 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.</p> <p>In the case of a CLOSED CORPORATION submitting a Bid, 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.</p> <p>In the case of a PARTNERSHIP submitting a Bid, 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 authorisation shall be included in the Bid.</p> <p>In the case of a JOINT VENTURE submitting a Bid, 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.”</p> <p>Accept that failure to submit proof of authorisation to sign the Bid shall result in a Bid offer being regarded as non-responsive.</p>
2.13.5	Delivery of Bid	<p>Replace the contents of the clause with the following:</p> <p>The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are:</p> <p><b>Location of tender box:</b> Records Office F58  <b>Physical address:</b> Bela-Bela Local Municipality, 59 Chris Hani Drive, Bela-Bela, 0480  <b>Postal address:</b> Private Bag X1609, Bela-Bela, 0480  <b>Identification details:</b> “<i>CONSTRUCTION OF 2 X 20MVA, 132/11KV BELA BELA SUBSTATION (PHASE 1)</i>”</p>
2.13.6	Two-envelope procedure	A two-envelope procedure will not be followed.
2.13.9		Telephonic, telegraphic, telex, facsimile, electronic or e-mailed Bids will not be accepted.

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
		<p>Accept that a tender submitted to the Employer cannot be withdrawn or substituted. No substitute tenders will be considered.</p> <p>All tenders received by the Bela-Bela Local Municipality will remain in the Municipality's possession until after the stipulated closing date and time.</p>
2.14	Information and Data to be completed in all respects	<p>Add the following to the clause:</p> <p>“Accept that the Employer shall in the evaluation of Bid Offers take due account of the Bidder's past performance in the execution of similar engineering 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 the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in section T2.2 of contracts of a similar nature and magnitude which they have successfully executed in the past.”</p> <p>Accept that the Employer is restricted in accordance with clause 4(4) of the Construction Regulations 2003, to only appoint a Contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely. Accept that submitting inferior and inadequate information relating to Health &amp; Safety (as required in clause 2.23) shall be regarded as justifiable and compelling reasons not to award a Contract to a Bidder.”</p>
2.15.1	Closing time	<p>The closing time and location for the submission of Bid Offers are:</p> <p><b>Closing date:</b> 01 November 2024  <b>Closing Time:</b> 12h00pm  <b>Location:</b>                      In the Tender Box placed at the Records office Room F58                      59 Chris Hani Drive                      Bela-Bela                      0480</p>
2.16.1	Tender offer validity	<p>The bid offer validity period is <b>90 days</b>.</p> <p>Add the following to the clause:</p> <p>If the Bid validity expires on a Saturday, Sunday or public holiday, the Bid shall remain valid and open for acceptance until the closure of business on the following working day.</p>

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
2.17	Clarification of Bid offer after Submission	<p>Replace the contents of the clause with the following clause:</p> <p>“Provide clarification of a Bid offer in response to a request to do so from the Employer during the evaluation of Bid offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors resulting from the product of the unit rate and the quantity by the adjustment of certain line-item totals. No change in the unit rate or prices or substance of the Bid Offer is sought, offered, or permitted. The total of the prices shall be adjusted to reflect the arithmetically correct summation of corrected line-item totals and shall be binding upon the Bidder. Therefore, no change in the competitive position of tenderers or substance of the tender offer is sought, offered or permitted”</p>
2.18	Provide other material	The Bidder shall, when requested by the Employer to do so, submit the names of all Management and Supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
2.19	Inspections, tests and analysis	The Bidder must provide access during working hours to his premises for inspections on request.
2.22	Return of Bid Documents	Where a Bidder who received a Bid, Document does not submit a Bid, the Bid Documents issued to him must be returned to the Employer within 14 days after the closing date for submission of Bids.
2.23	Certificates	<p>The following certified certificates / information/ documents must be provided with the Bid Offer (any Bid not complying with the below stipulations, listed a. to I. will be regarded as non-responsive and will therefore not be considered for further evaluation):</p> <ol style="list-style-type: none"> <li>Authority for signature on an original company letterhead.</li> <li>Copies of Company / CC / Trust / Partnership registration certificates as well as signed agreements and power of attorney for Joint Venture / Consortium if applicable.</li> <li>Joint Venture Agreement and the power of attorney in case of Joint Ventures.</li> <li>Bidders must submit a tax compliance verification pin on a SARS letterhead.</li> <li>Proof of registration with the <b>Central Data Base (CSD)</b> of the National Treasury.</li> <li>Certificate of Contractor Registration with CIDB Grading of <b>6EP</b> or higher issued by the Construction Industry Development Board. Certificates of Registration in respect of each partner, where a bidder satisfied the CIDB Contractor grading designation requirements through the formation of a joint venture.</li> <li>Evidence of registration and proof of good standing with the Department of Labour in terms of section 80 of the compensation for injury and Disease Act (COIDA) (Act No 130 of 1993).</li> <li>Copy of Identity Documents (if member is a one-man concern)</li> <li>Copy of Deed of Trust (if a trust is involved)</li> </ol>

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
		<p>j. Copy of the curriculum vitae of the person who prepares the Contractor's Health and Safety Plan.</p> <p>k. Copy of curriculum vitae of the Health and Safety officer the successful bid intends appointing in accordance with the Occupational and Safety Act.</p> <p>l. Copy of at least the previous month Municipal utility account for the company and Directors, which is not in arrears for more than three (3) months/ ninety (90) days must be attached. If Municipal Services are paid by the Lessor, in the case where the bidder is leasing the premises occupied, a copy of valid Lease Agreement and a copy of Municipal utility account, which is not in arrears for more than three (3) months/ ninety (90) days, must be submitted.</p> <p>m. Proof of Vendor Registration (For Substation Projects), with Eskom</p> <p><b>Note:</b> Failure to provide these documents will result in the tender not being evaluated further in terms of <b>Method 2 (Functionality, Price and Specific goals)</b></p>
2.24 (Add the following new Clause)	Canvassing and obtaining of additional information by Bidder's	<p>Accept that no Bidder shall make any attempt either directly or indirectly to canvass any of the Employers officials or the Employer's agent in respect of his Bid, after the opening of the Bids but prior to the Employer arriving at a decision thereon.</p> <p>No Bidder shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of Bids."</p>
2.25 (Add the following new Clause)	Awards to close family members of persons in the service of the state	<p>Accept that the notes to the Employer's annual financial statements must disclose particulars of any award of more than R 2 000.00 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause 2.25), or has been in the service of the state in the previous twelve months, including –</p> <p>a) the name of that person.</p> <p>b) the capacity in which that person is in the service of the state; and</p> <p>c) the amount of the award.</p> <p>In order to give effect to the above, the questionnaire for the declaration of interests in the bid of persons in service of state must be completed.</p>
2.26 (Add the following new Clause)	Tax compliance pin	<p>Submission of a Tax Compliance Verification Pin on a SARS letterhead is compulsory."</p> <p>"Bidders should note, that in accordance with legislation, no contract may be awarded to a / a person / entity who has failed to submit a Tax Compliance Verification Pin on a SARS letterhead from the South African revenue Service (SARS)</p>

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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER																				
2.27 (Add the following new Clause)	Tender Disputes	Disputes on the tendering procedure will be settled by means of mutual consultation, mediation (with or without legal representation), or when unsuccessful in procedures as per the applicable laws in the Court of Law of the Republic of South Africa.																				
2.28 (Add the following new Clause)	Eligibility	<p>Only those tenderers who can demonstrate that they will have in their employ, management and supervisory staff satisfying the requirements of the scope of work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders.</p> <p><b>Tender Qualification: Labour Intensive Contracts</b> To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria:</p> <p>a) Having participated in and graduated with fully satisfactory results from the relevant national qualification framework training organized under EPWP (or other similar project) and applying trained supervisory staff on a full-time basis for the execution of the works. LIC NQF Level 5.</p> <p>b) Proposals for timely acquisition (own, lease, hire, etc.) of the essential minimum equipment.</p> <p>c) The contractor will carry out the works using labour based work methods as described in Section 3 of the Scope of Work.</p> <p>The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirement. The contractor shall ensure that the minimum supervisor to worker ratio of <b>1:10</b> for effective supervision of Labour intensive works for all LI activities</p>																				
2.29 (Add the following new Clause)	Schedule of Labour Content	<p>The minimum Labour Content for this Project shall be <b>6%</b> calculated as the amount spend on labour wage divided by the total value of the project. The minimum job creation targets on the project shall be:</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Total</th> <th>Women</th> <th>Youth</th> <th>Disabled</th> </tr> </thead> <tbody> <tr> <td>Work Opportunities</td> <td>15</td> <td>09</td> <td>08</td> <td>1</td> </tr> <tr> <td>Person Days</td> <td>3150</td> <td>1890</td> <td>1733</td> <td>210</td> </tr> <tr> <td>Training Days</td> <td>TBC</td> <td>TBC</td> <td>TBC</td> <td>TBC</td> </tr> </tbody> </table>	Description	Total	Women	Youth	Disabled	Work Opportunities	15	09	08	1	Person Days	3150	1890	1733	210	Training Days	TBC	TBC	TBC	TBC
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CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
2.30 (Add the following new Clause)	Additional Conditions of Bid	<p>The additional Conditions of Bid are:</p> <ol style="list-style-type: none"> <li>1 Bela-Bela Local Municipality may also request the Bidder to provide written evidence that his financial, labour and resources are adequate for carrying out project.</li> <li>2 The Bela-Bela Local Municipality reserves the right to appoint a firm of chartered accountants and auditors and / or execute any other financial investigations on the financial resources of any Bidder. The Bidder shall provide all reasonable assistance in such investigations.</li> <li>3 The Bela-Bela Local Municipality reserves the right to appoint a different Service Provider for each project. The Bidder shall be required to complete the Form of Offer and the Bill of Quantities for each project.</li> <li>4 The bid document shall be submitted and shall not be taken apart.</li> <li>5 List of Returnable Documents (PART T2) must be completed in full. A bidder's company profile will not be used by the Bela-Bela Local Municipality to complete PART T2 on behalf of the Bidder.</li> </ol> <p><b>PLEASE NOTE:</b> If PART T2 is not completed in full by the Bidder, this offer will be rejected.</p>
3.1	Respond to clarification	<p>Replace the contents of the clause with the following:</p> <p>Respond to a request for clarification received via email as per the details on the invitation to bid, up to three (3) working before closing of the bid.</p>
3.4	Opening of Bid submissions	Bids will be opened immediately after the closing time for bid.
3.5	Two-envelope system	The two-envelope system shall not apply.
3.8.1	Test for responsiveness	<p>Determine, after opening and before detailed evaluation, whether each tender offer properly received:</p> <ol style="list-style-type: none"> <li>a) complies with the requirements of these Conditions of Tender,</li> <li>b) has been properly and fully completed and signed, and</li> <li>c) is responsive to the other requirements of the tender documents.</li> </ol>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
3.8.2	Responsive Tender	<p>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:</p> <ol style="list-style-type: none"> <li>a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,</li> <li>b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or</li> <li>c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.</li> </ol> <p>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.</p>
3.9	Arithmetical Errors	<p>Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with 3.11 for:</p> <ol style="list-style-type: none"> <li>a) the gross misplacement of the decimal point in any unit rate;</li> <li>b) omissions made in completing the pricing schedule or bills of quantities; or</li> <li>c) arithmetic errors in: <ol style="list-style-type: none"> <li>i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or</li> <li>ii) the summation of the prices.</li> </ol> </li> </ol> <p>The Employer must correct the arithmetical errors in the following manner:</p> <ol style="list-style-type: none"> <li>a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.</li> <li>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. 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.</li> <li>c) 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.</li> </ol> <p>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.</p>
3.11	Evaluation of Bids	The procedure for the evaluation of responsive Bids is <b>Method 2 (Functionality, Price and Specific goals)</b> .

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER																									
3.11.1	General	<p>Evaluation of Bid Offers</p> <p>Scoring Functionality</p> <p>Functionality of responsive bids submitted will be evaluated according to the predetermined criteria described below, considering, among other factors, the quality, reliability and the technical capacity and ability of a Bidder.</p> <p>A Bid will not be evaluated further if it fails to meet the minimum threshold of total 70 points out of maximum 100 points for functionality as prescribed in the following tables:</p> <table border="1"> <thead> <tr> <th>CATEGORY</th> <th>FUNCTIONAL CRITERIA</th> <th>POINTS ALLOCATION</th> </tr> </thead> <tbody> <tr> <td>(i)</td> <td>Experience of the bidder</td> <td>50</td> </tr> <tr> <td>(ii)</td> <td>Key personnel qualifications and experience</td> <td>40</td> </tr> <tr> <td>(iii)</td> <td>List of Plant</td> <td>10</td> </tr> <tr> <td colspan="2"><b>TOTAL</b></td> <td><b>100</b></td> </tr> </tbody> </table> <p>(i) EXPERIENCE OF THE BIDDER (50 POINTS)</p> <p>The Bidder must submit proof of successfully completed similar projects, i.e. construction works. (Certified Copies of Appointment Letters and Completion Certificates must be attached).</p> <table border="1"> <thead> <tr> <th>TARGETED GOALS</th> <th>POINTS ALLOCATION</th> </tr> </thead> <tbody> <tr> <td>Bidder has submitted no information or inadequate information to determine scoring levels</td> <td>0</td> </tr> <tr> <td>Bidder has successfully completed at least 1 similar project with a project value of R10 000 000.00 or more</td> <td>20</td> </tr> <tr> <td>Bidder has successfully completed at least 2 similar projects with a project value of R10 000 000.00 or more</td> <td>35</td> </tr> <tr> <td>Bidder has successfully completed at least 3 similar projects with a project value of R10 000 000.00 or more</td> <td>50</td> </tr> </tbody> </table> <p>(ii) KEY PERSONNEL QUALIFICATIONS AND EXPERIENCE (40 POINTS)</p> <p>The Bidder must submit the Proposed Team Structure, identifying Site Agent, Site Foreman and Safety Officer as key personnel. (Copies of CVs and Certified Copies of Qualifications Certificates must be attached).</p>	CATEGORY	FUNCTIONAL CRITERIA	POINTS ALLOCATION	(i)	Experience of the bidder	50	(ii)	Key personnel qualifications and experience	40	(iii)	List of Plant	10	<b>TOTAL</b>		<b>100</b>	TARGETED GOALS	POINTS ALLOCATION	Bidder has submitted no information or inadequate information to determine scoring levels	0	Bidder has successfully completed at least 1 similar project with a project value of R10 000 000.00 or more	20	Bidder has successfully completed at least 2 similar projects with a project value of R10 000 000.00 or more	35	Bidder has successfully completed at least 3 similar projects with a project value of R10 000 000.00 or more	50
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER			
		KEY-PERSONNEL	TARGETED GOALS	POINTS ALLOCATION	TOTAL POINTS
		<b>Site Agent</b>	No information or inadequate information submitted to determine scoring level	0	0
			Site Agent with NQF Level 6 qualification	5	15
			NQF Level 5 certificate in "Manage Labour Intensive Construction" or similar	5	
			Site Agent with 1 – 3 years of relevant construction experience	5	
			Site Agent with NQF Level 6 qualification	5	20
			NQF Level 5 certificate in "Manage Labour Intensive Construction" or similar	5	
			Site Agent with more than 3 years of relevant construction experience	10	
		<b>Site Foreman</b>	No information or inadequate information submitted to determine scoring level	0	0
			Site Foreman with NQF Level 4 qualification	2	5
			NQF Level 4 certificate in "Apply Labour Intensive Construction" or similar	1	
			Site Foreman with 1 – 3 years of relevant construction experience	2	
			Site Foreman with NQF Level 4 qualification	2	10
			NQF Level 4 certificate in "Apply Labour Intensive Construction" or similar	1	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER			
			Site Foreman with more than 3 years of relevant construction experience	7	
		<b>KEY-PERSONNEL</b>	<b>TARGETED GOALS</b>	<b>POINTS ALLOCATION</b>	<b>TOTAL POINTS</b>
			No information or inadequate information submitted to determine scoring level	0	
		<b>Safety officer</b>	Safety officer with NQF Level 6 qualification in Health and Safety	2	<b>5</b>
			Safety officer with 1 – 3 years of relevant construction experience	3	
			Safety officer with NQF Level 6 qualification in Health and Safety	2	<b>10</b>
		Safety officer with more than 3 years of relevant construction experience	8		
		(iii) LIST OF PLANT (10)			
		Bidders are expected to have the following minimum plant: Excavator, Grader, TLB, Tipper Truck and LDV (Registration documents of plant owned or letter of intent to rent the relevant plant with registration documents must be attached)			
		<b>TARGETED GOALS</b>		<b>POINTS ALLOCATIONS</b>	
		No relevant documents attached		0	
		Grader		2	
		TLB		2	
		Tipper Truck		2	
		2 x LDV		2	
		1 X 8 Ton Crane Truck		2	
		All responsive bids that qualify by meeting the minimum thresholds for functionality will then be evaluated on price and specific goals in accordance with the Preferential Procurement Regulations 2022 (Government Gazette No. 47452 dated 04 November 2022). The points scored for functionality are			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER										
		<p>not carried over or considered in the calculation of the Financial and Preference evaluation.</p> <p>For bids with a Rand Value equal to or below R50 million (80/20)</p> <p>(1) The following formula will be used to calculate the points out of 80 for price in respect of an invitation with a Rand value equal to or below R50 million, inclusive of all applicable taxes.</p> <p>The financial offer will be scored using the following formula:  <math display="block">Ps = 80 \left( 1 - \frac{Pt - Pmin}{Pmin} \right)</math>                     Where-                      Ps = Points scored for price of tender under consideration.                      Pt = Price of tender under consideration; and                      Pmin = Price of lowest acceptable tender.</p> <p>(2) Subject to sub-regulation (4) below, points for specific goals must be awarded to a Bidder in accordance with the table below</p> <table border="1"> <thead> <tr> <th>SPECIFIC GOALS CATEGORIES</th> <th>NUMBER OF POINTS 20 POINTS BREAKDOWN</th> </tr> </thead> <tbody> <tr> <td>1. Category of persons</td> <td> <ul style="list-style-type: none"> <li>• 100% Youth owned – 5 points</li> <li>• More than or equal to 51% Youth owned – 3 points</li> <li>• Less than 51% Youth owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p> </td> </tr> <tr> <td>2. Gender</td> <td> <ul style="list-style-type: none"> <li>• 100% Woman owned – 5 points</li> <li>• More than or equal to 51% Woman owned – 3 points</li> <li>• Less than 51% Woman owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p> </td> </tr> <tr> <td>3. Race</td> <td> <ul style="list-style-type: none"> <li>• 100% Black owned – 5 points</li> <li>• More than or equal to 51% Black owned – 3 points</li> <li>• Less than 51% Black owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p> </td> </tr> <tr> <td>4. Disability</td> <td> <ul style="list-style-type: none"> <li>• 100% people with disability owned – 5 points</li> <li>• More than or equal to 51% people with disability owned – 3 points</li> <li>• Less than 51% people with disability owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p> </td> </tr> </tbody> </table> <p>(3) A maximum of 20 points may be awarded to a tenderer for the specific goal specified for the tender.</p>	SPECIFIC GOALS CATEGORIES	NUMBER OF POINTS 20 POINTS BREAKDOWN	1. Category of persons	<ul style="list-style-type: none"> <li>• 100% Youth owned – 5 points</li> <li>• More than or equal to 51% Youth owned – 3 points</li> <li>• Less than 51% Youth owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p>	2. Gender	<ul style="list-style-type: none"> <li>• 100% Woman owned – 5 points</li> <li>• More than or equal to 51% Woman owned – 3 points</li> <li>• Less than 51% Woman owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p>	3. Race	<ul style="list-style-type: none"> <li>• 100% Black owned – 5 points</li> <li>• More than or equal to 51% Black owned – 3 points</li> <li>• Less than 51% Black owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p>	4. Disability	<ul style="list-style-type: none"> <li>• 100% people with disability owned – 5 points</li> <li>• More than or equal to 51% people with disability owned – 3 points</li> <li>• Less than 51% people with disability owned – 1 point</li> </ul> <p><b>Maximum points = 5 points</b></p>
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

CLAUSE	SUB-TITLE	ADDITION OR VARIATION TO STANDARD CONDITIONS OF TENDER
		<p>(4) The points scored for the specific goal must be added to the points scored for price and the total must be rounded off to the nearest two decimal places.</p> <p>(5) Subject to section 2(1)(f) of the Act, the contract must be awarded to the tenderer scoring the highest points.</p>
3.13.1	Acceptance of Bid Offer	A Bid Offer will only be accepted on condition that such acceptance is not prohibited in terms of clause 44 of the Municipal Supply Chain Management Regulations published in terms of the Municipal Finance Management Act, 2003.
3.17	Copies of Contract	The successful Bidder shall receive ONE (01) copy of the signed Contract.

Contractor

Witness 1

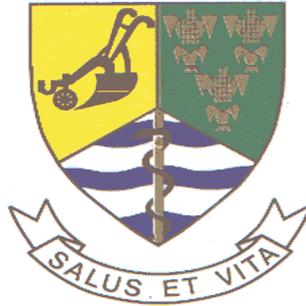
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

**PART T2: RETURNABLE DOCUMENTS**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## **T2.1 List of returnable documents**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (i) Documentation to demonstrate eligibility to have tenders evaluated**
- (ii) Certificate of authority for signatory (Form F).
  - (iii) Copies of Company / CC / Trust / Partnership registration certificates as well as signed agreements and power of attorney for Joint Venture / Consortium if applicable
  - (iv) Joint Venture Agreement and Power of attorney in case of Joint Ventures
  - (v) Valid proof of the Tax Compliance Status (Verification Pin) issued by the South African Revenue Services (SARS) or declaration by the South Africa Revenue Services (SARS) that tax matters of the Tendering company / association or Joint Venture parties are in order (Form K).
  - (vi) Copies of the attach Audited Annual Financial Statement (AFS) of the company past three (3) financial years or since establishment if establish during the past three (3) financial years for projects exceeding R10 million. If the bidder is required by law to prepare the Annual Financial Statement (AFS). In the case of the Joint venture, such documents must be attached for all parties.
  - (vii) Proof of registration with the **Central Data Base** (CSD) of the National Treasury.
  - (viii) Copy of a valid letter of good standing for Workmen's compensation with the Department of Labour in terms of Compensation for Occupational Injuries and Diseases Amendment Act, No.61 of 1997 (as amended). This must be submitted for all members / partners in case of Joint Venture / Partnership. (Form O).
  - (ix) Proof of Central Supplier Database registration. This must be submitted for all members / partners in case of Joint Venture / Partnership.
  - (x) Copies of municipal rates and taxes accounts of both company and director(s) not older than 3 months and not in arrears for more than 90 days from the date of tender closure. A lease agreement may be submitted where applicable but must be accompanied by the municipal rates and taxes account of the leased property where the lessee is responsible for such account. If the lessee is not responsible for the municipal rates and taxes account, then a statement of account from the lessor must be submitted as evidence that the lessee has met their obligations. If municipal rates and taxes submitted is not in the name of the company and/or any of the directors, a written affidavit stating how the account relates to the said company and/or its directors must be submitted. In the case of the Joint venture, such documents must be attached for all parties. (Form M).
  - (xi) Proof of Registration with CIDB – **Grade 6EP or higher**. In case of a joint venture, a calculated combined CIDB grading must be attached.

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

- (xii) The Bidder must attach certified proof of Vendor Registration for Substation Projects, with Eskom. In case of Joint Venture, all Companies/bidders must submit the proof of Vendor Registration for Substation projects with Eskom.

**Note:** Failure to provide these documents will result in the tender not being evaluated as per **Method 2 (Functionality, Price and Preference)**

### 1. Returnable Schedules required for tender evaluation purposes

The Bidder must complete the following returnable schedules as relevant:

Form A	RECORD OF ADDENDA TO TENDER DOCUMENTS
Form B	PROPOSED AMENDMENTS AND QUALIFICATIONS
Form C	AUTHORITY OF SIGNATORY
Form D	COMPULSORY DECLARATION
Form E	DECLARATION OF GOOD STANDING REGARDING TAX <b>(MBD 2)</b>
Form F	DECLARATION OF INTEREST <b>(MBD 4)</b>
Form G	MUNICIPAL DECLARATION AND RETURNABLE DOCUMENTS <b>(MBD 5.1)</b>
Form H	ANNUAL FINANCIAL STATEMENTS DECLARATION <b>(MBD 5.2)</b>
Form I	MUNICIPALITY UTILITY ACCOUNT <b>(MBD 5.3)</b>
Form J	PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022 <b>(MBD 6.1)</b>
Form K	DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES <b>(MBD 8)</b>
Form L	CERTIFICATE OF INDEPENDENT BID DETERMINATION <b>(MBD 9)</b>
Form M	FINANCIAL REFERENCES /BIDDER'S CREDIT RATING AND BANK DETAILS

### 2. Other documents required for tender evaluation purposes

Form N	VALID LETTER OF GOOD STANDING WITH THE WORKMEN'S COMPENSATION WITH THE DEPARTMENT OF LABOUR
Form O	PROPOSED KEY PERSONNEL
Form P	SCHEDULE OF PREVIOUS EXPERIENCE
Form Q	SCHEDULE OF SIMILAR CURRENT PROJECTS
Form R	SCHEDULE OF INFRASTRUCTURE AND RESOURCES / PLANT AND EQUIPMENT
Form S	FUNCTIONALITY CRITERIA AND POINTS CLAIMED BY BIDDER
Form T	SCHEDULE OF LABOUR CONTENT

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**PLEASE NOTE:**

- The Bidder is required to complete each schedule and form listed above to the best of his ability, as the evaluation of Bids and eventual Contract will be based on the information provided by the Bidder.
- Failure of a Bidder to complete the schedules and forms to the satisfaction of the Employer will inevitably prejudice the Bid and may lead to rejection on the basis that the Bid is non-responsive.
- Bidders shall note that their signatures appended to each returnable form represents a declaration that they vouch for the accuracy and correctness of the information provided, including the information provided by candidates proposed for the specified key positions.
- Notwithstanding any check or audit conducted by or on behalf of the Employer, the information provided in the returnable documents is accepted in good faith and as justification for entering into a contract with a bidder. If subsequently any information is found to be incorrect such discovery shall be taken as wilful misrepresentation by that bidder to induce the contract. In such event the Employer has the discretionary right to terminate the contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## T2.2 RETURNABLE DOCUMENTS

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM A: 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 considered in this tender offer:

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

Attach additional pages if more space is required.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
 Name \_\_\_\_\_ Position \_\_\_\_\_  
 Bidder \_\_\_\_\_

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM B: PROPOSED AMENDMENTS AND QUALIFICATIONS**

The Bidder should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a Bidder may state such deviations and qualifications in a covering letter to his tender and reference such letter in this schedule.

The Bidder's attention is drawn to clause 5.8 of SANS 10845-3 regarding the Employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

Signed

Date

Name

Position

*Bidder*

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM C: AUTHORITY OF SIGNATORY**

Details of person responsible for tender process:

Name: \_\_\_\_\_

Contact number: \_\_\_\_\_

Office address: \_\_\_\_\_

Signatories for close corporations and companies shall confirm their authority by completing this form and submitting a **duly signed and dated original or certified copy on the Company Letterhead** of the relevant resolution of their members or their board of directors, as the case may be.

**COMPANIES AND CLOSE CORPORATIONS:**

"By resolution of the board of directors passed on (date) .....

Mr/ Ms .....

has been duly authorized to sign all documents in connection with the Bid Number

..... and any Contract which may arise there from on

behalf of .....

(COMPANY NAME IN BLOCK CAPITALS)

SIGNED ON BEHALF OF THE COMPANY .....

IN HIS CAPACITY AS .....

DATE .....

FULL NAMES OF SIGNATORY .....

AS WITNESSES: 1. ....

2. ....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**JOINT VENTURES:**

**Certificate of Authority for Joint Ventures**

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms ....., authorised signatory of the company ....., acting in the capacity of lead partner, to sign all documents in connection with the tender offer an any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
		SIGNATURE ON BEHALF OF BIDDER: ..... Name: ..... Designation: .....
		SIGNATURE ON BEHALF OF BIDDER: ..... Name: ..... Designation: .....
		SIGNATURE ON BEHALF OF BIDDER: ..... Name: ..... Designation: .....
		SIGNATURE ON BEHALF OF BIDDER: ..... Name: ..... Designation: .....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM D: COMPULSORY DECLARATION**

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

**Section 1: Enterprise Details**

<b>Name of enterprise:</b>	
<b>Contact person:</b>	
<b>Email:</b>	
<b>Telephone:</b>	
<b>Cell no</b>	
<b>Fax:</b>	
<b>Physical address</b>	
<b>Postal address</b>	

**Section 2: Particulars of companies and close corporations**

<b>Company / Close Corporation registration number</b>	
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**Section 3: SARS Information**

<b>Tax reference number</b>	
<b>VAT registration number:</b>	<i>State Not Registered if not registered for VAT</i>

**Section 4: CIDB registration number**

<b>CIDB Registration number (if applicable)</b>	
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**Section 5: National Treasury Central Supplier Database**

<b>Supplier number</b>	
<b>Unique registration reference number</b>	

**Section 6: Particulars of principals**

**principal:** means a natural person who is a partner in a partnership, a sole proprietor, a director of a company established in terms of the Companies Act of 2008 (Act No. 71 of 2008) or a member of a close corporation registered in terms of the Close Corporation Act, 1984, (Act No. 69 of 1984).

Full name of principal	Identity number	Personal tax reference number

Attach separate page if necessary

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Section 7: Record in the service of the state**

Indicate by marking the relevant boxes with a cross, if any principal is currently or has been within the last 12 months in the service of any of the following:

- a member of any municipal council
- a member of any provincial legislature
- a member of the National Assembly or the National Council of Province
- a member of the board of directors of any municipal entity
- an official of any municipality or municipal entity
- an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act of 1999 (Act No. 1 of 1999)
- a member of an accounting authority of any national or provincial public entity
- an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

Name of principal	Name of institution, public office, board or organ of state and position held	Status of service <i>(tick appropriate column)</i>	
		Current	Within last 12 months

\*insert separate page if necessary

**Section 8: Record of family member in the service of the state**

**family member:** a person's spouse, whether in a marriage or in a customary union according to indigenous law, domestic partner in a civil union, or child, parent, brother, sister, whether such a relationship results from birth, marriage or adoption

Indicate by marking the relevant boxes with a cross, if any family member of a principal as defined in section 5 is currently or has been within the last 12 months been in the service of any of the following:

- a member of any municipal council
- a member of any provincial legislature
- a member of the National Assembly or the National Council of Province
- a member of the board of directors of any municipal entity
- an official of any municipality or municipal entity
- an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
- a member of an accounting authority of any national or provincial public entity
- an employee of Parliament or a provincial legislature

Name of family member	Name of institution, public office, board or organ of state and position held	Status of service <i>(tick appropriate column)</i>	
		Current	Within last 12 months

\*insert separate page if necessary

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Section 9: Record of termination of previous contracts with an organ of state**

Was any contract between the tendering entity including any of its joint venture partners terminated during the past 5 years for reasons other than the Employer no longer requiring such works or the Employer failing to make payment in terms of the contract.

- Yes       No (Tick appropriate box)

If yes, provide particulars (interest separate page if necessary)

**Section 10: Declaration**

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the tendering entity confirms that the contents of this Declaration are within my personal knowledge, and save where stated otherwise in an attachment hereto, are to the best of my belief both true and correct, and:

- i) neither the name of the tendering entity or any of its principals appears on:
  - a) the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 (Act No. 12 of 2004)
  - b) National Treasury’s Database of Restricted Suppliers (see www.treasury.gov.za)
- ii) neither the tendering entity or any of its principals has within the last five years been convicted of fraud or corruption by a court of law (including a court outside of the Republic of South Africa).
- iii) any principal who is presently employed by the state has the necessary permission to undertake remunerative work outside such employment (attach permission to this declaration)
- iv) the tendering entity is not associated, linked or involved with any other tendering entities submitting tender offers
- v) has not engaged in any prohibited restrictive horizontal practices including consultation, communication, agreement, or arrangement with any competing or potential tendering entity regarding prices, geographical areas in which goods and services will be rendered, approaches to determining prices or pricing parameters, intentions to submit a tender or not, the content of the submission (specification, timing, conditions of contract etc) or intention to not win a tender;
- vi) has no other relationship with any of the Bidders or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest.
- vii) neither the Bidder or any of its principals owes municipal rates and taxes or municipal service charges to any municipality or a municipal entity and are not in arrears for more than 3 months.
- viii) SARS may, on an on-going basis during the term of the contract, disclose the Bidder’s tax compliance status to the Employer and when called upon to do so, obtain the written consent of any Sub-Contractors who are subcontracted to execute a portion of the contract that is entered into in excess of the threshold prescribed by the National Treasury, for SARS to do likewise.

Signed \_\_\_\_\_ Date \_\_\_\_\_  
 Name \_\_\_\_\_ Position \_\_\_\_\_  
 Enterprise name \_\_\_\_\_

**NOTE 1** The Standard Conditions of Tender contained in SANS 10845-3 prohibits anticompetitive practices (clause 3.1) and requires that Bidders avoid conflicts of interest, only submit a tender offer if the Bidder or any of his principals is not under any restriction to do business with Employer (4.1.1) and submit only one tender either as a single tendering entity or as a member in a joint venture (clause 4.13.1). Clause 5.7 also empowers the Employer to disqualify any Bidder who engages in fraudulent and corrupt practice. Clause 3.1 also requires Bidders to comply with all legal obligations.

**NOTE 2:** Section 30(1) of the Public Service Act, 1994, prohibits an employee (person who is employed in posts on the establishment of departments) from performing or engaging remunerative work outside his or her employment in the relevant department, except with the written permission of the executive authority of the department. When in operation, Section 8(2) of the Public Administration Management Act, 2014, will prohibit an employee of the public administration (i.e. organs of state and all national departments, national government components listed in Part A of Schedule 3 to the Public Service Act, provincial departments including the office of the premier listed in Schedule 1 of the Public Service Act and provincial departments listed in schedule 2 of the Public Service Act, and provincial government components listed in Part B of schedule 3 of the Public Service Act) or persons contracted to executive authorities in accordance with the provisions of section 12A of the Public Service Act of 1994 or persons performing similar functions in organs of state from conducting business with the State or to be a director of a public or private company conducting business with the State. The offence for doing so is a fine or imprisonment for a period not exceeding 5 years or both. It is also a serious misconduct which may result in the termination of employment by the Employer.

                               
 Contractor      Witness 1      Witness 2      Employer      Witness 1      Witness 2

**FORM E: DECLARATION OF GOOD STANDING REGARDING TAX (MBD 2)**

**ATTACH THE VALID SARS TAX COMPLIANCE STATUS (VERIFICATION PIN)**

The South Africa Revenue Services (SARS) Tax Compliance Status (Verification Pin or Declaration by The South Africa Revenue Services (SARS) confirming that tax matters of the Tendering company/ association or Joint Venture parties are in order must be submitted together with the Bid. Failure to submit the documents will result in the invalidation of the Bid.

[Signature box for Contractor]

Contractor

[Signature box for Witness 1]

Witness 1

[Signature box for Witness 2]

Witness 2

[Signature box for Employer]

Employer

[Signature box for Witness 1]

Witness 1

[Signature box for Witness 2]

Witness 2

**FORM F: DECLARATION OF INTEREST (MBD 4)**

**DECLARATION OF INTEREST**

- 1. No bid will be accepted from persons in the service of the state<sup>1</sup>.
- 2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
- 3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

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

3.2 Identity Number: .....

3.3 Position occupied in the Company (director, trustee, hareholder<sup>2</sup>):.....

3.4 Company Registration Number: .....

3.5 Tax Reference Number:.....

3.6 VAT Registration Number: .....

3.7 The names of all directors / trustees / shareholders members, their individual identity Numbers and state employee numbers must be indicated in paragraph 4 below.

3.8 Are you presently in the service of the state? YES / NO

3.8.1 If yes, furnish particulars.....

.....

<sup>1</sup>MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

(i) any municipal council;

(ii) any provincial legislature; or

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

(iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

(d) an employee of 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);

(e) a member of the accounting authority of any national or provincial public entity; or

(f) an employee of Parliament or a provincial legislature.

<sup>2</sup> Shareholder” means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

3.9 Have you been in the service of the state for the past twelve months? .....YES / NO

3.9.1 If yes, furnish particulars

.....  
.....

3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?.....YES / NO

3.10.1 If yes, furnish particulars.

.....  
.....

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?.....YES / NO

2.11.1 If yes, furnish particulars

.....  
.....

[Signature box]

Contractor

[Signature box]

Witness 1

[Signature box]

Witness 2

[Signature box]

Employer

[Signature box]

Witness 1

[Signature box]

Witness 2

3.12 Are any of the company’s directors, trustees, managers, Principal shareholders or stakeholders in service of the state?.....YES / NO

3.12.1 If yes, furnish particulars.

.....  
.....

3.13 Are any spouse, child or parent of the company’s directors, trustees, managers, principle shareholders or stakeholders in service of the state?.....YES / NO

3.13.1 If yes, furnish particulars.

.....  
.....

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract.....YES / NO

3.14.1 If yes, furnish particulars:

.....  
.....

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

Full Name	Identity Number	State Employee Number

.....  
SIGNATURE ON BEHALF OF BIDDER

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM G: MUNICIPAL DECLARATION AND RETURNABLE DOCUMENTS (MBD 5.1)**

The following particulars must be furnished in relation to tenders for municipalities and municipal entities where:

- a) consultancy services are required; and
- b) goods, services or a combination thereof where the estimated total of the prices exceeds R 10 million including VAT.

In the case of a joint venture, separate municipal declarations and returnable documents shall be submitted in respect of each partner.

**Section 1: Enterprise Details**

<b>Name of enterprise:</b>	
<b>Contact person:</b>	
<b>Email:</b>	
<b>Telephone:</b>	
<b>Cell no</b>	
<b>Fax:</b>	
<b>Physical address</b>	
<b>Postal address</b>	

**Section 2: Declaration for consultancy services:**

The enterprise has been awarded the following consultancy services by an organ of state during the last five years.

Name of organ of state	Estimated number of contracts	Nature of service, e.g, quantity surveying	Service similar to required service (yes / no) ?

Attach separate page as necessary

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Section 3 Goods, services or a combination thereof where the estimated total of the prices exceeds R 10 million including VAT**

I / we certify that

1) (tick one of the boxes):

- the enterprise **is not** required by law to prepare annual financial statements for auditing
- the enterprise **is** required by law to have audited annual financial statements and attached the audited financial statements for the past three financial years, or since the establishment as the enterprise was established within the past three years

2) the enterprise and its directors have / have no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days (i.e.: all municipal accounts are paid up to date);

3) source of goods and / or services:

(tick one of the boxes and insert percentages if applicable):

- goods and / or services are sourced only from within the Republic of South Africa
- % of the total cost of goods and / or services will be sourced from outside the Republic of South Africa and the percentage of payment from the municipality or municipal entity which is expected to be transferred out of the Republic is  %

I furthermore confirm that the following contracts were awarded to the enterprise by an organ of state during the last five years and attached particulars of any material non-compliance or dispute concerning the execution of such contracts:

Name of organ of state	Estimated number of contracts	Nature of contracts

Attach separate page as necessary

Dispute will be settled by means of mutual consultation, mediation (with or without legal representation) or, when unsuccessful in a South African court of law.

I, the undersigned who warrants that I am duly authorised on behalf of the tendering entity, hereby declare that the contents of this Declaration are within my personal knowledge, and save where stated otherwise are to the best of my belief both true and correct

Signed

Date

Name

Position

Enterprise name

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM H: ANNUAL FINANCIAL STATEMENTS DECLARATION (MBD 5.2)**

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

- 1) The enterprise's financial year end is .....
- 2) The enterprise's financial statements have been prepared in accordance with the provisions of the Companies Act of 2008 or the Close Corporation Act of 1984, as applicable
- 3) The enterprise has compiled its financial accounts [tick one box]:
  - internally  independently
- 4) The following statement applies to the enterprise [tick one box and provide relevant information]
  - enterprise has had its financial statements audited;  
name of auditor .....
  - enterprise is required by law to have an independent review of its financial statements  
name of independent reviewer .....
  - enterprise has not had its financial statements audited and is not required by law to have an independent review or audit of such statements
- 5) The attached income statement and balance sheet is a true extract from the financial statements complying with applicable legislation for the preceding three (3) financial years within 12 months of the financial year end.  
*[Attach the income statement and the balance sheet contained in the financial statement]*
- 6) The annual turnover for the last financial year is R .....
- 7) The total assets as at the end of the last financial year is R .....
- 8) The total liabilities as at the end of the financial year is R .....

I hereby declare that the contents of this Declaration are within my personal knowledge and save where stated otherwise are to the best of my belief both true and correct.

Signed

Date

Name

Position

Bidder

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM I: MUNICIPAL UTILITY ACCOUNT (MBD 5.3)**

**DECLARATION BY THE BIDDER**

I the undersigned \_\_\_\_\_, has been duly

authorized to sign all documents with the Tender for Contract Number \_\_\_\_\_ on behalf of

\_\_\_\_\_ hereby make a declaration as follows:  
(referred to herein as "the Bidder")

1. I declare that the bidder and any of its director(s) / member(s) does not owe the municipality, or any other municipality and/or municipal entity any amount which is in arrears in respect of any municipal rates and taxes or municipal service charges.
2. I understand and accept that in the event that this declaration is proved to be false, the bid shall be rejected forthwith. All other rights of the municipality (including but not limited to the right to claim damages where applicable) shall remain reserved in full.

SIGNED ON BEHALF OF THE COMPANY

\_\_\_\_\_

IN HIS CAPACITY AS

\_\_\_\_\_

DATE

\_\_\_\_\_

FULL NAMES OF SIGNATORY

\_\_\_\_\_

UTILITYACCOUNT NUMBER	NAME OF MUNICIPALITY	NAME OF OWNER

\_\_\_\_\_

Contractor

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

\_\_\_\_\_

Employer

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

**ATTACH CERTIFIED COPY OR ORIGINAL UTILITY ACCOUNT  
(NOT OLDER THAN THREE MONTHS FROM DATE OF TENDER CLOSURE)**

**Important: Note the following**

- List Account(s) registered in the name(s) of the Director(s) and the Company the declaration form attached hereto.
- Attach municipal Utility account(s) of the respective Director(s) not older than three (3) months from date of closure the bid,
- Attach Municipal Utility account of Company registered office (if applicable) and in case of leased premises, attach lease agreement and the utility account of leased premises or statement of account for the lessee.
- In case of joint ventures – utility account(s) of each of the various directors must be attached to the bid document and the joint lease agreement should be attached.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM J: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL  
PROCUREMENT REGULATIONS 2022 (MBD 6.1)**

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

**NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022**

**1. GENERAL CONDITIONS**

1.1 The following preference point systems are applicable to invitations to tender:

- 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 To be completed by the organ of state**

The applicable preference point system for this tender is the 80/20 preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

**1.4 To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	<b>POINTS</b>
<b>PRICE</b>	80
<b>SPECIFIC GOALS</b>	20
<b>Total points for Price and SPECIFIC GOALS</b>	<b>100</b>

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**2. DEFINITIONS**

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

**3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES**

**3.1. POINTS AWARDED FOR PRICE**

**3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS**

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

<b>80/20</b>	or	<b>90/10</b>
$P_s = 80 \left( 1 - \frac{P_t - P_{min}}{P_{min}} \right)$	or	$P_s = 90 \left( 1 - \frac{P_t - P_{min}}{P_{min}} \right)$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmin = Price of lowest acceptable tender

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT**

**3.2.1. POINTS AWARDED FOR PRICE**

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

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

80/20 or 90/10

Where;

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

**4. POINTS AWARDED FOR SPECIFIC GOALS**

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Table 1: Specific goals for the tender and points claimed are indicated per the table below.**

*(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.*

*Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)*

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed. (80/20 system) (To be completed by the tenderer)	Means of Verification
100% Youth owned = 5 points, More than or equal to 51% Youth owned = 3 points, Less than 51% Youth owned = 1 point <b>Maximum of 5 points</b>	5		Copy of Central Suppliers Database
100% Woman owned = 5 points, More than or equal to 51% Woman owned = 3 points, Less than 51% Woman owned = 1 point <b>Maximum of 5 points</b>	5		Copy of Central Suppliers Database
100% Black owned = 5 points, More than or equal to 51% black owned = 3 points, Less than 51% black owned = 1 point, <b>Maximum of 5 points</b>	5		Copy of Central Suppliers Database
100% people with disability owned = 5 points, More than or equal to 51% people with disability owned = 3 points, Less than 51% people with disability owned = 1 point <b>Maximum of 5 points</b>	5		Certified copy of Doctor's Certificate with medical practice number

Suppliers are required to submit the documents listed in means of verification as per above table for points allocation during preference point system evaluation.

**DECLARATION WITH REGARD TO COMPANY/FIRM**

4.3. Name of company/firm.....

4.4. Company registration number: .....

4.5. TYPE OF COMPANY/ FIRM

- Partnership/Joint Venture / Consortium
- One-person business/sole propriety
- Close corporation
- Public Company
- Personal Liability Company
- (Pty) Limited

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Non-Profit Company
  - State Owned Company
- [TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
  - (a) disqualify the person from the tendering 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 tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed necessary.

.....

**SIGNATURE(S) OF TENDERER(S)**

**SURNAME AND NAME:** .....

**DATE:** .....

**ADDRESS:** .....

.....

.....

.....

.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM K: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (MBD 8)**

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities 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 bid of any bidder may be rejected if that bidder, or any of its directors have:
  - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
  - b. been convicted for fraud or corruption during the past five years;
  - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
  - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?  (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).  The Database of Restricted Suppliers now resides on the National Treasury's website ( <a href="http://www.treasury.gov.za">www.treasury.gov.za</a> ) and can be accessed by clicking on its link at the bottom of the home page.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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)?  The Register for Tender Defaulters can be accessed on the National Treasury's website ( <a href="http://www.treasury.gov.za">www.treasury.gov.za</a> ) by clicking on its link at the bottom of the home page.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	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 <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

**CERTIFICATION**

I, THE UNDERSIGNED

(FULL NAME) .....

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS 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 ON BEHALF OF BIDDER

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM L: CERTIFICATE OF INDEPENDENT BID DETERMINATION (MDB 9)**

This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.

1. 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).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
2. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. Take all reasonable steps to prevent such abuse.
  - b. Reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. Cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
3. This MBD 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.
4. In order to give effect to the above, the attached Certificate of Bid Determination (MDB 9) must be completed and submitted with the bid:

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>2</sup> 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

**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 Municipality / Municipal Entity)

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 ON BEHALF OF BIDDER 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<sup>3</sup> will not be construed as collusive bidding.

\_\_\_\_\_

Contractor

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

\_\_\_\_\_

Employer

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

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;
  - (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

.....  
Position

.....  
Name of Bidder

<sup>3</sup> 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

**FORM M: FINANCIAL REFERENCES/ BIDDER'S CREDIT RATING AND BANK DETAILS**

**DETAILS OF BIDDERS BANKING INFORMATION**

**Notes to bidder:**

1. The bidder shall attach a certified copy or an original letter from the bank confirming the bank account and details which is not older than three months. The bidder's banking details as they appear below shall be completed.
2. In the event that the bidder is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

<b>BANK NAME:</b>									
<b>ACCOUNT NAME:</b> (e.g. ABC Electrical Construction cc)									
<b>ACCOUNT TYPE:</b> (e.g. Savings, Cheque etc)									
<b>ACCOUNT NO:</b>									
<b>ADDRESS OF BANK:</b>									
<b>CONTACT PERSON:</b>									
<b>TEL. NO. OF BANK / CONTACT:</b>									
How long has this account been in existence:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">0-6 months</td> <td style="width: 30px;"></td> </tr> <tr> <td style="padding: 2px;">7-12 months</td> <td></td> </tr> <tr> <td style="padding: 2px;">13-24 months</td> <td></td> </tr> <tr> <td style="padding: 2px;">More than 24 months</td> <td></td> </tr> </table> <span style="margin-left: 20px;">(Tick which is appropriate)</span>	0-6 months		7-12 months		13-24 months		More than 24 months	
0-6 months									
7-12 months									
13-24 months									
More than 24 months									

**SIGNATURE ON BEHALF OF BIDDER: .....**

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

**FORM N: LETTER OF GOOD STANDING FOR THE WORKMEN'S COMPENSATION WITH THE DEPARTMENT OF LABOUR**

**Attach a Certified Copy of the valid letter of Good Standing for the Workmen's Compensation with the Department of Labour in terms of Compensation for Occupational Injuries and Diseases Amendment Act, No.61 of 1997 (as amended)**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM O: PROPOSED KEY PERSONNEL**

The Bidder shall list below the key personnel whom he proposes to employ on the project should his Bid be accepted.

The experience of the Project Site Agent, Site Foreman and Safety Officer will be evaluated in relation to the scope of work from three different points of view:

- 1) General experience and qualifications in relation to the works
- 2) Adequacy for the Project
- 3) Knowledge of issues pertinent to the works.

The experience of the Tenderer in similar projects or similar areas and conditions in relation to the required service as described in the scope of work **over the last five years** will be evaluated.

A CV of the key person of **not** more than 3 pages should be attached to this schedule.

The CV should be structured under the following headings:

- 1 Personal particulars
  - name
  - date and place of birth
  - place (s) of tertiary education and dates associated therewith
  - professional awards
- 2 Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations) (Attach copies of each)
- 3 Name of current Employer and position in enterprise
- 4 Overview of work experience (year, organization and position)
- 5 Outline of recent experience that has a bearing on the scope of work

The scoring of the experience of the Project Site Agent, Site Foreman and Safety Officer will be in accordance to 3.11.1 (ii) of the Tender Data.

Name	Qualification	Designation	Project type	Value of Works	Year Completed

**(Attach CV's and Certified copies of qualifications and other certificates)**

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**SIGNED ON BEHALF OF BIDDER**

**DATE:**

--	--

**POSITION**

**NAME OF BIDDER**

<div style="border: 1px solid black; width: 100%; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 100%; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 100%; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 100%; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 100%; height: 30px; margin: 0 auto;"></div>	<div style="border: 1px solid black; width: 100%; height: 30px; margin: 0 auto;"></div>
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

**FORM P: SCHEDULE OF SIMILAR PREVIOUS EXPERIENCE**

The following is a statement of major works successfully executed by myself / ourselves in recent years.

**Failure to detail the required information shall signify that the Bid is submitted by an inexperienced Bidder.**

Employer	Engineer / Consultant Firm	Nature of Works / Description of Works	Value of Construction Works	Duration and Completion Date
	Firm : Contact Name : Telephone no :			
	Firm : Contact Name : Telephone no :			
	Firm : Contact Name : Telephone no :			
	Firm : Contact Name : Telephone no :			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**NOTE:**

TARGETED GOALS	POINTS ALLOCATION
Bidder has submitted no information or inadequate information to determine scoring levels	0
Bidder has successfully completed at least 1 similar project with a project value of R10 000 000.00 or more	20
Bidder has successfully completed at least 2 similar projects with a project value of R10 000 000.00 or more	35
Bidder has successfully completed at least 3 similar projects with a project value of R10 000 000.00 or more	50

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**SIGNED ON BEHALF OF BIDDER**

**DATE:**

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**POSITION**

**NAME OF BIDDER**

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

**FORM Q: SCHEDULE OF SIMILAR CURRENT PROJECTS**

Provide the following information on current projects

**This information is material to the award of the Contract.**

Employer	Engineer / Consultant Firm	Nature of Works / Description of Works	Value of Construction Works	Duration and Completion Date
	Firm: Contact Name: Telephone no:			
	Firm: Contact Name: Telephone no:			
	Firm: Contact Name: Telephone no:			

--	--

**SIGNED ON BEHALF OF BIDDER**

**DATE:**

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**POSITION**

**NAME OF BIDDER**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM R: SCHEDULE OF INFRASTRUCTURE AND RESOURCES**

Provide information on the following:

**Infrastructure and resources available for this project:**

1. Major Plant and Equipment available for this Contract:

Quantity	Size, Description, Capacity, etc.

2. Major Plant and Equipment that will be **hired or acquired for this contract** if my / our Bid is accepted:

Quantity	Size, Description, Capacity, etc.	How Acquired	
		Hire / Buy	Source

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**3. Vehicles**

Provide information on vehicles that you have available for this project.

Description:	Number of units	Registration Number

**NOTE:**

TARGETED GOALS	POINTS ALLOCATIONS
No relevant documents attached	0
Grader	2
TLB	2
Tipper Truck	2
2 x LDV	2
1 X 8 Ton Crane Truck	2

- Proof must be provided that equipment is owned by the company.
- Proof must be provided (if available) from supplier if the bidder intends to hire and does not have his own plant.

**4. Size of enterprise and current workload**

What was your turnover in the previous financial year? .....

What is the estimated turnover for your current financial year? .....

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**SIGNED ON BEHALF OF BIDDER**

**DATE:**

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**POSITION**

**NAME OF BIDDER**

--

Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

<b>FORM S: FUNCTIONALITY CRITERIA AND POINTS CLAIMED BY BIDDER</b>
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A Bid will not be evaluated further if it fails to meet the minimum threshold of total **70 points** out of maximum 100 points for functionality as prescribed in the following tables:

Category	Functional Criteria	Points Allocation	Points Claimed by Bidder
1	Experience of the bidder	50	
2	Key personnel qualifications and experience	40	
3	List of Plant	10	
<b>TOTAL</b>		<b>100</b>	

#### CATEGORY 1: Experience of the Bidder

TARGETED GOALS Contractor has successfully completed similar and comparative projects	BID GOAL	MINIMUM POINTS	POINTS CLAIMED BY BIDDER
Bidder has submitted no information or inadequate information to determine scoring levels	0	<b>20</b>	
Bidder has successfully completed at least 1 similar project with a project value of R10 000 000.00 or more	20		
Bidder has successfully completed at least 2 similar projects with a project value of R10 000 000.00 or more	35		
Bidder has successfully completed at least 3 similar projects with a project value of R10 000 000.00 or more	50		
<b>MINIMUM POINTS : Category 1</b>		<b>20</b>	
<b>MAXIMUM POINTS : Category 1</b>		<b>50</b>	

The Bidder must submit proof of successfully completed similar and comparative projects. Copies of appointment letters, and completion certificates must be attached. i.e. construction works.

Contractor
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Witness 1
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Witness 2
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Employer
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Witness 1
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Witness 2
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**CATEGORY 2: Key personnel qualifications and experience**

The Bidder must submit Proposed Team Structure, identifying Site Agent, Site Foreman and Safety Officer as key personnel (Copies of CV’s and certified copies of certificates must be attached).

KEY-PERSONNEL	TARGETED GOALS	POINTS ALLOCATION	TOTAL POINTS	POINTS CLAIMED BY BIDDER
<b>Site Agent</b>	No information or inadequate information submitted to determine scoring level	0	<b>0</b>	
	Site Agent with NQF Level 6 qualification	5	<b>15</b>	
	NQF Level 5 certificate in “ <i>Manage Labour Intensive Construction</i> ” or similar	5		
	Site Agent with 1 – 3 years of relevant construction experience	5		
	Site Agent with NQF Level 6 qualification	5	<b>20</b>	
	NQF Level 5 certificate in “ <i>Manage Labour Intensive Construction</i> ” or similar	5		
	Site Agent with more than 3 years of relevant construction experience	10		
<b>Site Foreman</b>	No information or inadequate information submitted to determine scoring level	0	<b>0</b>	
	Site Foreman with NQF Level 4 qualification	2	<b>5</b>	
	NQF Level 4 certificate in “ <i>Apply Labour Intensive Construction</i> ” or similar	1		
	Site Foreman with 1 – 3 years of relevant construction experience	2		
	Site Foreman with NQF Level 4 qualification	2	<b>10</b>	
	NQF Level 4 certificate in “ <i>Apply Labour Intensive Construction</i> ” or similar	1		
	Site Foreman with more than 3 years of relevant construction experience	7		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

KEY-PERSONNEL	TARGETED GOALS	POINTS ALLOCATION	TOTAL POINTS	POINTS CLAIMED BY BIDDER
Safety officer	No information or inadequate information submitted to determine scoring level	0	0	
	Safety officer with NQF Level 6 qualification in Health and Safety	2	5	
	Safety officer with 1 – 3 years of relevant construction experience	3		
	Safety officer with NQF Level 6 qualification in Health and Safety	2	10	
	Safety officer with more than 3 years of relevant construction experience	8		
<b>MINIMUM POINTS : Category 2</b>		<b>25</b>		
<b>MAXIMUM POINTS : Category 2</b>		<b>40</b>		

**CATERGORY 3: List of plant**

Bidders are expected to have the following minimum plant: Excavator, Grader, TLB, Tipper Truck and LDV (**Registration documents of plant owned or letter of intent to rent the relevant plant with registration documents must be attached**)

TARGETED GOALS	POINTS ALLOCATIONS	POINTS CLAIMED BY BIDDER
No relevant documents attached	0	
Grader	2	
TLB	2	
Tipper Truck	2	
2 x LDV	2	
1 X 8 Ton Crane Truck	2	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Bid Evaluation Points**

Description	Section Number	No of Points	
		Maximum	Claimed
Bid Amount (VAT Inclusive) – From Pricing Data	C1.1		
Price Points { $80 \times (1 - Pt - PM / Pm)$ }		80	
Specific Goals (See Tender Data)	T2.2	20	
<b>Total Points</b>		<b>100</b>	

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**SIGNED ON BEHALF OF BIDDER**

**DATE :**

--	--

**POSITION**

**NAME OF BIDDER**

--

Contractor

--

Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

**FORM T: SCHEDULE OF LABOUR CONTENT**

The tenderer must complete a standard table reflecting the labour force anticipated to be employed on this contract, including labour employed by sub-contractors. The Specified target value is **11%**

Type of Labour	Man-Days	Minimum Wage Rate per unit	Total Wage Cost (Excl VAT)
Permanent Staff			
Temporary Staff			
SMME/HDEs Labour			
<b>Total</b>			
<b>Percentage</b>			

**Notes to Tenderer:**

- (1) Labour is defined as hourly paid personal
- (2) The penalty for non-compliance during the contract or fraudulent disclosure is discussed in the contract data.

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**SIGNED ON BEHALF OF BIDDER**

**DATE :**

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**POSITION**

**NAME OF BIDDER**

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Contractor

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Witness 1

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Witness 2

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Employer

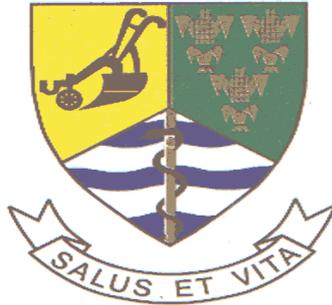
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Witness 1

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Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

## **PART 2: THE CONTRACT**

### **Part C1: Agreements and Contract Data**

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee
- C1.4 OHS

### **Part C2: Pricing Data**

- C2.1 Pricing Instructions
- C2.2 Bills of quantities

### **Part C3: Scope of Work**

- C3 Scope of Work

### **Part C4: Site Information**

- C4 Site Information

Contractor

Witness 1

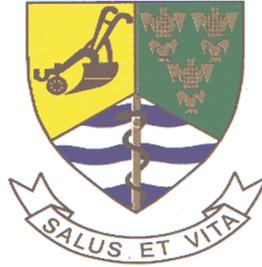
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

<b>C1      AGREEMENTS AND CONTRACT DATA</b>
---

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee
- C1.4 OHS

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Contractor

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Witness 1

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Witness 2

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Employer

--

Witness 1

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Witness 2

**C1.1 FORM OF OFFER AND ACCEPTANCE**

**OFFER**

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

**PROJECT NO: 9/3/1/394**

**PROJECT DESCRIPTION: Construction of 132/11KV 2 X 20MVA Bela Bela Substation (Phase 1)**

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

By the representative of the Bidder, deemed to be duly authorised, signing this part 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).

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 Tender Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

For the Bidder \_\_\_\_\_  
(Name and address of organisation)

Name & Signature of Witness

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

\_\_\_\_\_  
Employer

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

**ACCEPTANCE**

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:

- Part 1 Agreements and Contract Data (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender 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 at or just after the date this Agreement comes into effect. 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 when the Bidder receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Bidder (now Contractor) within five 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.

Signature(s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

For the Employer \_\_\_\_\_

(Name and address of organisation)

Name & Signature of Witness

\_\_\_\_\_

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## SCHEDULE OF DEVIATIONS

### Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
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 tender 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 tender 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 \_\_\_\_\_

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

\_\_\_\_\_  
Employer

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

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 Tender Data and addenda thereto as listed in the Tender 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 tender 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.

Signature(s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

For the Bidder \_\_\_\_\_  
(Name and address of organisation)

Name & Signature of Witness

\_\_\_\_\_  
Name Date

**FOR THE EMPLOYER**

Signature(s) \_\_\_\_\_

Name(s) \_\_\_\_\_

Capacity \_\_\_\_\_

For the Employer \_\_\_\_\_  
(Name and address of organisation)

Name & Signature of Witness

\_\_\_\_\_  
Name Date

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## C1.2 CONTRACT DATA

### CONDITIONS OF CONTRACT

The Conditions of Contract are the General Conditions of Contract for Construction Works Third Edition (2015), published by the South African Institute of Civil Engineers, is applicable to this contract and is obtainable from [www.saice.org.za](http://www.saice.org.za) .

Copies of these Conditions of Contract may also be obtained from the South African Institute of Civil Engineers. SAICE House, Block 19, Thornhill Office Park, 94 Bekker Road, Vorna Valley, Midrand, 1686. Tel: (011) 805 5947/ 48/ 53.

### CONTRACT SPECIFIC DATA

The following contract specific data are applicable to this contract:

#### Part 1: Data Provided by the Employer

##### Compulsory Data:

Clause	Description														
1.1.1.5	Clause 1.1.1.5 of the GCC is replaced by the following: The "Commencement date" shall be the date the site is handed over to the Contractor.														
1.1.1.13	The Defects Liability Period is <b>Twelve (12) months</b> from the date of issuing a completion certificate.														
1.1.1.14	The time for achieving Practical Completion is <b>EIGHT (08) months</b> .														
1.1.1.15	The Employer is the <b>Bela-Bela Local Municipality</b> .														
1.1.1.16	The Engineer is <b>Volt Consulting Engineers</b>														
1.1.1.26	Pricing Strategy is <b>Re-measurable Contract</b> .														
1.2.1.2	The Employer's address for receipt of communication is: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"><b><u>Physical Address</u></b></td> <td style="width: 50%;"><b><u>Postal Address</u></b></td> </tr> <tr> <td>59 Chris Hani Drive</td> <td>Private Bag x 1609</td> </tr> <tr> <td>Bela-Bela</td> <td><b>Bela-Bela</b></td> </tr> <tr> <td>0480</td> <td>0480</td> </tr> <tr> <td><b>Tel no:</b> 014 736 2016</td> <td></td> </tr> <tr> <td><b>Fax no:</b> N/A</td> <td></td> </tr> <tr> <td><b>e-mail:</b> <a href="mailto:Kotsokoanet@belabela.gov.za">Kotsokoanet@belabela.gov.za</a></td> <td></td> </tr> </table>	<b><u>Physical Address</u></b>	<b><u>Postal Address</u></b>	59 Chris Hani Drive	Private Bag x 1609	Bela-Bela	<b>Bela-Bela</b>	0480	0480	<b>Tel no:</b> 014 736 2016		<b>Fax no:</b> N/A		<b>e-mail:</b> <a href="mailto:Kotsokoanet@belabela.gov.za">Kotsokoanet@belabela.gov.za</a>	
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	<p>The engineer's address is:</p> <p><b><u>Physical Address &amp; Postal Address</u></b>  <b>Volt Consulting Engineers</b>  Suite 13 Ficus Park  15 Pierre Street  Bendor  Polokwane  Postal Code: 0699  Tel No: (+27) (15) 296 0245  Contact person: Mr. L. Motsene  e-mail: <a href="mailto:info@voltconsulting.co.za">info@voltconsulting.co.za</a></p>
1.3.3	The language of the Contract and for written communications is <b>English</b>
3.2.3	<p>The Engineer shall obtain specific approval from the Employer before executing any of his functions or duties according to the following Clauses of the General Condition of Contract:</p> <ol style="list-style-type: none"> <li>1. New Clause 3.2.3.1 "For expenditure on the Contract to exceed the Contract Price";</li> <li>2. Existing Clauses: <ol style="list-style-type: none"> <li>3.2.1 - Nomination of person as Engineer's Representative.</li> <li>5.6 - Approval of the programme</li> <li>5.7.2 - Work at night as well as by day</li> <li>5.8 - Non-working times</li> <li>5.12 - Granting of extension of time excluding Clause 5.12.2.2 (Abnormal climatic conditions)</li> <li>5.13 - Reduction of penalty for delay.</li> <li>5.14.2 - The issue of a Certificate of Practical Completion.</li> <li>5.14.4 - The issue of a Certificate of Completion.</li> <li>5.16.1 - The issue of a Final Approval Certificate.</li> <li>6.3 - Variations in respect of Variations which are not small (R 20 000)</li> <li>6.6 - Instruction to expend on Provisional and Prime Cost Sums</li> <li>6.11 - Adjustment of General Items &amp; Approval of Claims</li> <li>8.2.2.2 - Order to repair and make good damage arising from any "excepted" risk.</li> </ol> </li> </ol>
3.2.4	Occupational Health, Safety & Wellness Sub Directorate – Public Health and the duly appointed H&S Officials has been appointed as Client Agents on this contract, in terms of Clause 4(5) of the Construction Regulations, 2003 as promulgated in terms of Section 43 of the Occupational Health and Safety Act, 1993. The Principal Contractor shall perform a preliminary assessment of the project generated H&S plan and submit such to Occupational Health, Safety & Wellness Sub Directorate – Public Health for

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	<p>legal compliance reassessment &amp; verification / approval prior to any works commencing. The duly appointed H&amp;S Officials will be responsible for further monitoring and the auditing of the approved H&amp;S plan for legal compliance.</p>
<p>4.3.1</p>	<p><b>Add the following to the clause:</b></p> <p>“For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall be guided by the latest Sectorial Determination: Civil &amp; mechanical Engineering Sector published from time to time.</p> <p>Compliance with the National Environmental Management Act (NEMA), Act 107 of 1998.</p> <p>Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.”</p> <p>“The Contractor shall comply with the Occupational Health and Safety Specification prepared by the Employer in terms of the Construction Regulations, 2003 promulgated in terms of Section 43 of the Occupational Health and Safety Act (Act No. 85 of 1993).</p> <p>Without limiting the Contractor’s obligations in terms of the Contract, the Contractor shall before commencement of the Works or any part thereof, be in the possession of an approved Health and Safety Plan.”</p>
<p>4.5</p>	<p><b>Add the following new sub-clauses:</b></p> <p>4.5.5 On the request of the Contractor, the Employer may, at his sole discretion, provide a support service to the Contractor in the giving of notices and in obtaining requisite consents, permissions and permits.</p> <p>4.5.6 On the request of the Contractor and certified by the Engineer as payable by the Contractor, the Employer may, in his sole discretion, advance funds to the Contractor in the form of a cheque in favour of the relevant institution or body, to facilitate the Contractor in complying with the provisions of this Clause. The Contractor shall provide proof to the Engineer of all payments effected by him.</p> <p>The Employer will deduct the sums advanced by the Employer and adjusted in accordance with the Contract Price Adjustment Formula or other rise-and-fall provision applicable to the Contract, from future payment certificates of the Contractor, if such sums are payable by the Contractor in the ordinary course of his business.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	<p>The Employer will not advance funds in respect of cyclic sums payable by the Contractor in the ordinary course of his business.</p>
<p>4.11.3</p>	<p><b>Add the following to Clause 4.11:</b></p> <p>Notwithstanding the wording of this Clause, on request of the Contractor the Employer may at his sole discretion, provide trade-skills training to the Contractor's employees to improve their competency and efficiency commensurate with the requirements of the Works.</p>
<p>5.3.1</p>	<p>The Contractor is required, <b>within 14 days before Commencement Date</b>, to submit the documents listed below to the Engineer for his approval.</p> <p><b>Proof of Joint Venture Bank Account and registration with the South African Revenue Services (SARS)</b></p> <p>Where applicable, the Joint Venture entity (Contractor) shall deliver proof of a joint venture bank account and registration with SARS for VAT and other applicable Taxes.</p> <p><b>Health and Safety Plan</b></p> <p>The Contractor shall deliver his health and safety plan, in terms of Clause 5(1) of the Construction Regulations (07 February 2014).</p> <p><b>Initial Programme</b></p> <p>The Contractor shall deliver his Initial Programme of work in terms of Clause 5.6</p> <p><b>Security</b></p> <p>Submit a guarantee of an Insurance Company or Bank to be jointly and severally bound with the Contractor for an amount equal to <b>10%</b> of the Contract Price. The wording of the Guarantee shall be identical to the pro forma provided in this Bid Document or Surety of 10% of the value of the works from the first payment certificate upon application and approval.</p> <p><b>Insurance</b></p> <p>Submit copies of receipts of registration, or payment for the premiums for the following insurances, as required by the new Clause 8.6 in this Contact Data.</p> <ul style="list-style-type: none"> <li>(a) Proof of registration with the Department of Labour as an Employer, in terms of the Compensation for Occupational Injuries and Diseases Act 1993, as amended</li> <li>(b) Insurance on an all risks basis for construction plant, equipment and other things (except those intended to incorporation into the works) brought onto the site to the full value of such construction plant, equipment and other things.</li> <li>(c) Where the Contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are</li> </ul>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	<p>adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication, then such interest shall be noted by endorsement to the Contractor's Policies of Insurance.</p> <p>(d) Imported equipment or component parts or materials to be supplied in terms of this Contract which require any process of assembly or finishing in South Africa prior to delivery to the site are to be insured by the Contractor up to the commencement of transit to site of the assembled or finished equipment, component parts or materials, unless special arrangements are made with the Employer.</p> <p>These insurances shall be maintained in force for the duration of the Contract, including any Defects Liability Period and in respect of Sub-Contractors, the Contractor shall be deemed to have complied with the provisions of the requirements relating to insurance by ensuring that the Sub-Contractors have affected such insurance.</p>
5.8.1	<p>The special non-working days are <b>all Gazetted Public Holidays falling outside the year-end break, and the year-end break commencing on 13 December 2024 and ends on 13 January 2025.</b></p>
5.12.2.2	<p><b>Add the following to sub-clause 5.12.2.2:</b></p> <p>"Normal rainfall is not regarded as <b>"abnormal climatic conditions"</b> which entitles the Contractor to extension of time. Allowance for normal rainfall shall be deemed to have been made in his offered rates, prices and programme. Extension of time for abnormal rainfall will be handled according to the formula below:</p> $V = (N_w - N_n) + (R_w - R_n) / X$ <p>Where:</p> <p>V = Extension of time in calendar days in respect of the calendar month under consideration.</p> <p>N<sub>w</sub> = Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.</p> <p>N<sub>n</sub> = Average number of days, as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month.</p> <p>R<sub>w</sub> = Actual rainfall in mm recorded for the calendar month under consideration.</p> <p>R<sub>n</sub> = Average rainfall in mm for the calendar month as derived from existing rainfall records.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	<p>The factor (Nw - Nn) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm. The factor (Rw - Rn) / X shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed Y mm, but wet conditions prevented or disrupted work.</p> <p>For the purposes of the Contract Nn, Rn, X and Y shall have those values assigned to them in the Appendix and/or the Specifications.</p> <p>The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total be negative the time for completion shall not be reduced. Extension of time for part of a month shall be calculated using pro rata values of Nn and Rn.</p> <p>This formula does not take account of flood damage which could cause further or concurrent delays and will be treated separately as far as extension of time is concerned".</p> <p>The values of X, Y, Nn and Rn to be used in above-mentioned formula are as follows:</p> <p style="text-align: center;"><b>X = 10 mm &amp; Y = 4 mm</b></p> <p>Source of Information: Weather Bureau, Department of Environment Affairs</p> <p>RAINFALL STATION: <b>BELA-BELA</b></p> <p style="text-align: center;"><b>•Add the following to sub-clause 5.12.2.4:</b></p> <p><i>ohs</i></p> <p>"Any disruption of labour on a regional or national level due to political unrest, organized mass action or related incidents which is considered to be beyond the Contractor's Control. Any strike within the confines of the Contractor's company, which may affect this project, will be deemed to be within the Contractor's control".</p>
5.13.1	The Penalty for delay to achieve completion by the due completion date is <b>0,025% of the contract price per calendar day</b>
5.16.3	The latent defect liability period is <b>60 months</b> .

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
6.3	All variations shall be in writing, confirmed by the Contractor and finally approved by the Employer. The Contractor shall not perform any variation work until written approval is issued from the Employer.
6.8.2	No price adjustments
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is <b>80%</b> .
6.10.3	The limit of retention money is <b>10%</b> on interim payment certificates up to a maximum of 10% of the contract sum.
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is <b>Nil</b> .
8.6.1.3	The limit of indemnity for liability insurance is <b>R 10 000 000.00</b>
8.6.5	The insurance shall be undertaken with an insurance company registered in South Africa.
10.5.1	Disputes are to be referred to mediation.
10.7.1	Disputes are to be referred for final settlement to arbitration.

Additional Data:

Clause	Description
1.1.1.2	<p><b>“Definitions”</b>  <b>Add the following new sub-clause 1.1.1.2:</b></p> <p>“For this Contract “Schedule of Quantities” will have the same meaning as “Bill of Quantities” and will form part of the Pricing Data as defined in the General Conditions of Contract.”</p>
1.1.1.35	<p><b>“Definitions”</b>  <b>Add the following new sub-clause 1.1.1.35:</b></p> <p><b>“Drawings”</b> means all drawings, calculations and technical information forming part of the Contract Documents and any modifications thereof or additions thereto from time to time approved in writing by the Engineer or delivered to the Contractor by the Engineer.</p>
1.2.1	<p><b>“Interpretations”</b>  <b>Add the following new sub-clauses:</b></p> <p>1.2.1.3 Sent by facsimile, electronic or any like communication irrespective of it being during office hours or otherwise.</p> <p>1.2.1.4 Posted to the Contractor’s address and delivered by the postal authorities.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	1.2.1.5 Delivered by a courier service and signed for by the recipient or his representative.”
1.3.7	<p><b>“General Provisions”</b>  <b>Add the following new sub-clause 1.3.7:</b></p> <p>The copyright in all documents, drawing and records (prepared by the Engineer) related in any manner to the Works shall vest in the Employer or the Engineer or both (according to the details of the Contract that has been entered into by the Engineer and the Employer for the Works), and the Contractor shall not furnish any information in connection with the Works to any person or organization without the prior approval of the Employer to this effect.</p>
4.1.2	<p><b>“Extent of obligations and liability”</b>  <b>Add the following to the clauses:</b></p> <p>The Contractor shall provide the following to the Engineer for retention by the Employer or his assignee in respect of all works designed by the Contractor:</p> <p>4.1.2.1 A Certificate of Stability of the Works signed by a registered Professional Engineer confirming that all such works have been designed in accordance with the appropriate codes of practice.</p> <p>4.1.2.2 Proof of registration and of adequate and current professional indemnity insurance cover held by the designer(s).</p> <p>4.1.2.3 Design calculations should the Engineer request a copy thereof.</p> <p>4.1.2.4 Engineering drawings and workshop details (both signed by the relevant professional engineer), in order to allow the Engineer to compare the design with the specified requirements and to record any comments he may have with respect thereto.</p> <p>4.1.2.5 “As-Built” drawings in PDF or DWG electronic format after completion of the Works.</p> <p>The Contractor shall be responsible for the design of the Temporary Works.</p>
4.5	<p><b>“Notices and fees”</b>  <b>Clause 4.5.4: Contractor to be compensated</b></p> <p>The fees, taxes, levies and other charges to be paid by the Contractor in terms of sub-clause 4.5 will not be refunded by the Employer. The cost thereof shall be deemed to be included in the prices offered for relevant items in the Bill of Quantities.</p>
5.12.2.4	<p><b>“Extension of time for Practical Completion”</b>  <b>Add the following new sub-clause 5.12.2.4:</b></p> <p>Any disruption of labour on a regional or national level due to political unrest, organized mass action or related incidents which is considered to be beyond the Contractor’s</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Description
	Control. Any strike within the confines of the Contractor’s company, which may affect this project, will be deemed to be within the Contractor’s control.
5.12.3	<p><b>“Extension of time for Practical Completion”</b>  <b>Add the following additional sub-clause:</b></p> <p>Any additional statutory holidays proclaimed after the closing date of Bids over and above the statutory holidays which existed at the time of Bidding.</p> <p>In the case of an additional public holiday declared by the State President, a claim for the cost of temporary or hourly-paid workers who would have been actively engaged in the construction work had the day not been declared a public holiday, will be considered by the Employer. Except for proven extra cost, claims for standing time of plant and equipment will not be considered as the cost thereof is deemed to be included in the Contractor’s provisional and general items.</p>
6.10.4	<p><b>“Delivery, dissatisfaction with and payment of payment certificate”</b>  <b>Add the following additional sub-clause:</b></p> <p>Notwithstanding the above, the Engineer shall be empowered to withhold the delivery of the payment certificate until the Contractor has complied with his obligations to report in terms of Clause 4.10.2 and as described in the Scope of Work.”</p>
9.2.1.3	<p><b>“Termination by Employer”</b>  <b>Add the following new sub-clauses:</b></p> <p>9.2.1.3.9 The Contractor committed a corrupt or fraudulent act during the procurement process or the execution of the contract.</p> <p>9.2.1.3.10 An official or other role player committed any corrupt or fraudulent act during the procurement process or in the execution of the contract that benefitted the Contractor.”</p>
10.1.1.1	<p><b>“Contractor’s claims”</b>  <b>Add the following new sub-clause:</b></p> <p>10.1.1.1.5 Discussions of claims during site meetings and minutes of such discussions shall not be regarded as a claim or notice by the Contractor of his intention to make a claim unless it is supported by a written submission in terms of Clause 10.1.1.1.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**Part 2: Data Provided by the Contractor**

Clause	Description								
1.1.1.9	The name of the Contractor is: .....								
1.2.1.2	The Contractor's address for receipt of communication is:  <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b><u>Physical Address:</u></b></p> <p>.....</p> <p>.....</p> <p>.....</p> </div> <div style="width: 45%;"> <p><b><u>Postal Address:</u></b></p> <p>.....</p> <p>.....</p> <p>.....</p> </div> </div> <p>Tel no: .....</p> <p>Fax no: .....</p> <p>e-mail: .....</p>								
1.1.1.14	The time for achieving Practical Completion as set out in the Scope of Works are  ..... Weeks								
6.2.1	The security provided by the company should be one of the following: <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">Type of Security</th> <th style="text-align: center;">Contractor's choice indicate "YES" or "NO"</th> </tr> </thead> <tbody> <tr> <td>Cash deposit of 10% of the Contract Sum plus Retention of 10% of the value of the Works</td> <td style="text-align: center;">.....</td> </tr> <tr> <td>Performance guarantee of 10% of the Contract Sum plus Retention of 10% of the value of the Works</td> <td style="text-align: center;">.....</td> </tr> <tr> <td>Deduction of 10% of the contract price from the Contractor's first payment certificate plus Retention of 10% of the value of the works</td> <td style="text-align: center;">.....</td> </tr> </tbody> </table> <p>Note: Value Added Tax is included in the Contract Sum for calculating the percentages.</p>	Type of Security	Contractor's choice indicate "YES" or "NO"	Cash deposit of 10% of the Contract Sum plus Retention of 10% of the value of the Works	.....	Performance guarantee of 10% of the Contract Sum plus Retention of 10% of the value of the Works	.....	Deduction of 10% of the contract price from the Contractor's first payment certificate plus Retention of 10% of the value of the works	.....
Type of Security	Contractor's choice indicate "YES" or "NO"								
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Performance guarantee of 10% of the Contract Sum plus Retention of 10% of the value of the Works	.....								
Deduction of 10% of the contract price from the Contractor's first payment certificate plus Retention of 10% of the value of the works	.....								
6.5.1.2.3	The percentage allowance to cover overhead charges on day work is  ..... %.								

.....  
Contractor

.....  
Witness 1

.....  
Witness 2

.....  
Employer

.....  
Witness 1

.....  
Witness 2

**C1.3 FORM OF GUARANTEE**

WHEREAS .....

at .....  
(Hereinafter referred to as "the Employer")

entered into, on the ..... Day of .....20..., at .....

a Contract with .....

at .....  
(Hereinafter called "The Contractor")

for the construction of .....

.....

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of suretyship for the due and faithful fulfilment of such Contract by the Contractor.

AND WHEREAS .....

Has/have at the request of the Contractor, agreed to give such security.

NOW THEREFORE WE, .....

do hereby guarantee and bind ourselves jointly and severally as Sureties and Co-principal Debtors to the Employer under renunciation of the benefits of division and exclusion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions.

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorised and/or contemplated by the terms of the said contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Due Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Due Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. The Employer shall be entitled, without reference to us, to release any securities held by it, and to give time to or compound or make any other arrangement with the Contractor.
3. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
4. Our total liability hereunder shall not exceed the sum of (R.....).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

5. We hereby choose domicilium citandi et executandi for all purposes arising hereof at

.....

**IN WITNESS WHEREOF** this guarantee has been executed by us at ..... on

this..... day of ..... 20.....

As witnesses:

1.....

Signature.....

2.....

Duly authorised to  
sign on behalf of .....

Address .....

.....

.....

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**C1.4 AGREEMENT IN TERMS OF THE OCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)**

THIS AGREEMENT made at \_\_\_\_\_

on this the \_\_\_\_\_ day of \_\_\_\_\_ in the year

\_\_\_\_\_ **between THE BELA-BELA LOCAL MUNICIPALITY (hereinafter called "the Employer")**

**of the one part, herein represented by** \_\_\_\_\_

in his capacity as \_\_\_\_\_ and

\_\_\_\_\_ (herein after called "the Mandatory") of the other part, herein represented by

\_\_\_\_\_ in his capacity as \_\_\_\_\_

**WHEREAS the Employer is desirous that certain works be constructed, viz,**

**BID NO: 9/3/1/394**

**Construction of Bela Bela 132/11KV 2 X 20MVA Substation (Phase1)**

and has accepted a Bid by the Mandatory for the construction, completion and maintenance of such Works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1 The Mandatory shall execute the work in accordance with the Contract Documents pertaining to this Contract.
- 2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or Engineer requiring him to commence the execution of the Works, to either
  - (a) the date of the Final Approval Certificate issued in terms of Clause 5.16.1 of the General Conditions of Contract (hereinafter referred to as "the GCC"),
  - (b) the date of termination of the Contract in terms of Clauses 9.1of the GCC.
- 3 The Mandatory declares himself to be conversant with the following:
  - (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:
    - (i) Section 8 : General duties of Employers to their employees.
    - (ii) Section 9 : General duties of Employers and self-employed persons to persons other than employees.

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

\_\_\_\_\_  
Employer

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

(iii) Section 37 : Acts or omissions by employees or mandatories, and  
(iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.

(b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his Sub-Contractors.

4 In addition to the requirements of Clause 8 of the GCC and all relevant requirements of the above-mentioned Volume 3, the Mandatory agrees to execute all the Works forming part of this Contract and to operate and utilise all machinery, plant and equipment in accordance with the Act.

5 The Mandatory is responsible for the compliance with the Act by all his Sub-Contractors, whether or not selected and/or approved by the Employer.

6 The Mandatory warrants that all his and his Sub-Contractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 which cover shall remain in force whilst any such workmen are present on site. A valid letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.

7 The Mandatory undertakes to ensure that he and/or Sub-Contractors and/or their respective Employers will at all times comply with the following conditions:

(a) The Mandatory shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatory obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.

(b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.

(c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of section 32 of the Occupational Health and Safety Act into any incident involving the Mandatory and/or his employees and/or his Sub-Contractors.

In witness thereof, the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

**SIGNED FOR AND ON BEHALF OF THE EMPLOYER:**

WITNESS 1 ..... NAME 1 .....  
(IN CAPITALS)

**SIGNED FOR AND ON BEHALF OF THE MANDATORY:**

WITNESS 1 ..... NAME 1 .....  
(IN CAPITALS)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

## CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION (PHASE 1)

<b>C2 PRICING DATA</b>
------------------------

C2.1 Pricing Instructions

C2.2 Bill of Quantities

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

<b>C2.1 PRICING INSTRUCTIONS</b>
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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

## C2.1 PRICING INSTRUCTIONS

1. The General Conditions of Contract, the Contract Data and the Drawings shall be read in conjunction with the Bill of Quantities.
2.
  - a. The Schedule comprises items covering the Contractor's profit and costs of general liabilities and of the construction of temporary and permanent Works.
  - b. Although the Bidder is at liberty to insert a rate of his own choosing for each item in the Schedule, his attention is drawn to the fact that the Contractor has the right, under various circumstances, to payment for additional works carried out and that the Engineer is obliged to base his assessment of the payment to be paid for such additional work on the rates inserted in the Schedule by the Contractor.
  - c. Clause 8 of each Standardized Specification and the measurement and payment clause of each Particular Specification, read together with the relevant clause of the Project Specification, set out what ancillary or associated activities are included in the rate for the operations specified.
3. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.
4. The prices and rates to be inserted in the Schedule of Quantities are to be the full inclusive prices to the Employer for the work described under the several items. The prices and rates shall be exclusive of Value Added Tax. Such prices shall cover all costs and expenses that may be required in and for the construction 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.
5. A price or rate is to be entered, in **BLACK INK**, against each item in the Schedule of Quantities.
6. In the event of the Bidder failing to price any item it will be held that the Bidder has made adequate allowance under other items for all labour, material and costs required for the execution, not only of the quantum of work covered by the unpriced item but also for any increase in the said quantum which may have to be undertaken during the course of the Contract.
7. The quantities set out in the schedule of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the schedule of quantities, will be used to determine payments to the Contractor.
8. An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.
9. The Bidder shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the bidded rates shall apply should work under these items actually be required.
10. Should the Bidder group a number of items together and bid one sum for such group of items, the single bided sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.
11. The bidded rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

12. The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.
13. Ordering of materials are not to be based on the Bill of Quantities, but only on information issued for construction purposes.
14. Those parts of the works to be constructed using labour-intensive methods are marked in the bill of quantities with the letters LI either in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a deviation from the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.
15. Where minimum labour intensity is specified in the design, the Bidder is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity targets.
16. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict
17. The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframes stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted. The client may institute a penalty relating to outstanding labour information.

The following information shall be maintained on site and submitted in electronic/hard copy formats:

- Certified ID copies of all locally employed labour
- Signed Contracts between the employer and the EPWP Participants
- Attendance Registers for the EPWP Participants
- Proof of Payment of EPWP Employees
- Monthly Reporting Template as per EPWP requirements

14. For the purposes of this Bill 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 Standardized, Project or Particular Specifications

Quantity : The number of units of work for each item

Rate : The payment per unit of work at which the Bidder bids to do the work

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Amount : The quantity of an item multiplied by the bided rate of the (same) item
- Sum : An amount bided for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

15. The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m <sup>2</sup>	=	square metre
m <sup>2</sup> -pass	=	square metre-pass
ha	=	hectare
m <sup>3</sup>	=	cubic metre
m <sup>3</sup> -km	=	cubic metre-kilometre
kW	=	kilowatt
kN	=	kilonewton
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	per cent
MN	=	meganewton
MN-m	=	meganewton-metre
PC Sum	=	Prime Cost Sum
Prov Sum	=	Provisional Sum

Contractor

Witness 1

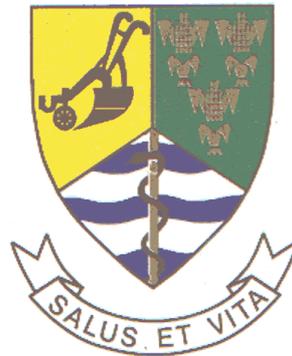
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

<b>C2.2 BILL OF QUANTITIES</b>
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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

**Bill of Quantities**

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
1	SANS 1200A	<b>PRELIMINARIES</b>					
1.1		<b>Municipality's specific requirements</b>					
1.1.1		Contractual requirements	item	1			
1.1.2		<b>Establishment of Facilities on Site</b>					
1.1.2.1		a. Offices and storage sheds	Month	8			
1.1.2.2		b. Living Accommodation	Month	8			
1.1.2.3		c. Ablution and latrine facilities	Month	8			
1.1.2.4		d. Tools and Equipment	Month	8			
1.1.2.5		e. Water supplies, electric power & communication	Month	8			
1.1.2.6		g. Plant	Month	8			
1.1.3		<b>Other fixed-charge obligations (specify)</b>					
1.1.3.1		1) CLO Remuneration	Month	8			
1.1.3.2		2) Allow 10% handling fee for contractor for item 1.1.3.1	Month	8			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
1.1.3.3		3) Payment for 15 EPWP workers	Month	8			
1.1.3.4		4) Allow 10% handling fee for contractor for item 1.1.3.3	Month	8			
1.1.3.5		5) UIF payment for EPWP workers	Item	1			
1.1.3.6		6) PPE for EPWP workers	Item	1			
1.1.3.7		7) Training for EPWP workers	Item	1			
1.1.3.8		8) Allow 10% handling fee for contractor for item 1.1.3.7	Month	8			
1.1.3.9		Remove Contractor's site establishment on completion (Re-establishment)	item	1			
1.1.3.10		Certificate of Compliance to be provided for all wiring, lights, switches including day/night switch.	item	1			
1.1.3.11		SD&L Requirements	item	1			
<b>1.2</b>		<b>TIME-RELATED ITEMS</b>					
1.2.1		Contractual Requirements	month	8			
1.2.2		Operation and maintenance of facilities on site for duration of construction	month	8			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
<b>1.3</b>		<b>Facilities for the Contractor</b>					
1.3.1		Supervision	month	8			
1.3.2		Company & head office overhead costs	month	8			
1.3.3		Machinery costs, transport cost to and from site.	month	8			
1.3.4		Assistance and arrangement with Municipality stores for transport and delivery of material.	month	8			
1.3.5		Receiving, taking control and administering material.	month	8			
1.3.6		Arrangement with Municipality Control, obtaining permits, arranging outages, etc. and to energise substation.	month	8			
1.3.7		Site security, safe guarding material in site camp and during construction.	month	8			
<b>1.4</b>		<b>Construction regulations:</b>					
1.4.1		Construction regulation requirements	item	1			
1.4.2		Health and safety compliance	item	1			
1.4.3		Job Specification Risk Assessments as per Construction Regulations	item	1			
1.4.4		HV Induction as per Municipality requirement	item	1			
<b>1.5</b>		<b>Complete Substation Construction Handing Over Document</b>					
1.5.1		Quality Control Process for the checking of Distribution substation construction before handing over for commercial operation	ea	1			
<b>Subtotal carried to Item 1 of Summary</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
2		<b>INSTALLATION OF EARTH GRID</b> The earth grid must be installed during the preparation of the platform.					
2.1		<b>Complete earth grid</b> Supply, Transport to site and Install as per earth grid drawing including all excavations, backfilling and compaction					
2.1.1	D-DT-6044	10 mm round copper main earth grid	m	2270			
2.1.2	D-DT-6044, D-DT-5240 Sheet 10	10 mm round copper for earth tails connected from reinforcement of transformer plinths, slipways and runway to main earth grid	m	30			
2.1.3	D-DT-6045, D-DT-5240	50 mm x 3 mm flat copper for earth tails connected to the main earth grid from equipment foundations incl. connecting hold down bolts together, transformer, kerbing reinforcement and fence (to the fence and fence corner gate post CGP)	m	370			
2.1.4	D-DT-5240	80 x 6 mm x 1.2 m long galvanised steel strap bolted to transformer tank and connected to transformer holding down bolts for earthing of transformers. <b>Note:</b> This is to be measured on site once the transformers have been installed	ea	8			
2.1.5	D-DT-6045	50 mm x 3 mm flat copper for earth tails for building & earthing of panels. This earthing should run on cable rack.	m	50			
2.1.6	D-DT-6045	50 mm x 3 mm flat copper for battery room	m	30			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
2.2	D-DT-5240	<b>Joints/Bonding</b> Bond all foundation copper to main earth grid of the substation as per earthing standard and foundation drawings.					
		<b>ALL joints and bonding points must be clearly marked with a danger tape to indicate the endangered position</b>					
2.2.1	Sheet 1&2	Main earth grid brazing; 10 mm round to 10 mm round	ea	230			
2.2.2	Sheet 1&2	Main earth grid brazing to earth tails (all foundations, fence, etc.) ; 50 mm x 3 mm flat to 10 mm round	ea	65			
2.2.3	Sheet 1&2	Main earth grid brazing to earth tails (reinforcing of trfr plinths, slipways and runway, sacrificial earths); 10 mm round to 10 mm round	ea	10			
2.2.4		Earth tail to foundation / plinth copper brazing; 50 mm x 3 mm flat to 50 mm x 3 mm flat.	ea	144			
	Sheet 1, 2, 5, 6, 7 & 8	<b>Note: Copper quantified in the main BOM is for the earth grid only, and not for the earthing of the hold-down bolts.</b>					
		Copper for the holding down bolts to be priced and allowed for with the foundations.					
2.2.5		50 mm x 3 mm flat copper bolted to corner gate posts and intermediate posts and fence	ea	15			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
2.2.6		80 x 6 mm x 1.2 m long galvanised steel strap bolted to tfr tank and connected to tfr holding down bolts for earthing of transformers. (2 connections per strap)	ea	16			
2.3		<p><b>Testing:</b></p> <p><b>It is the responsibility of the substation Contractor to conduct all necessary substation tests on completion of the project. Tests to be done by an approved person and submitted to the Project Manager.</b></p>					
2.3.1		Earth Electrode Resistance Measurement	ea	1			
2.3.2		Continuity Measurement of Substation Earth Grid Systems	ea	1			
2.3.3		Surface Potential Measurement (Step & Touch Potentials)	ea	1			
<b>Subtotal carried to Item 2 of Summary</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)	
					Supply	Install		
<b>3</b>		<b>CIVIL WORK</b>						
<b>3.1</b>	<b>SABS 1200C</b>	<b>Site Clearance</b>						
3.1.1	8.2.1	Clear and grub site from all organic matter	m <sup>2</sup>	7350				
3.1.2	8.2.9	Transport materials and debris to unspecified site and dump	m <sup>3</sup> km	500				
3.1.3		Break existing concrete basis and remove debris	m <sup>3</sup>	70				
3.1.4		Extra over for Item 3.1.3 for hand excavation to locate and disconnect Earth Mat	m <sup>3</sup>	70				
<b>3.2</b>	<b>SABS 1200DA 8.3.2(a)</b>	<b>Earthworks (Small Works)</b> <b>EXCAVATION</b>						
3.2.1		Excavate for trenches, footings and restricted foundations in all materials and use for backfill at Podium	m <sup>3</sup>	70				
3.2.2		Mass excavation for top 300 mm stock pile and mechanical modify to use as backfill in layers of 150 mm compacted to 93% mod AASHTO shaped to 1 : 100 slope	m <sup>3</sup>	2250				
<b>TOTAL CARRIED OVER</b>								

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
	8.3.2(b)	Extra over Item 3.2.1 above for:					
3.2.3		Intermediate Excavation	m <sup>3</sup>	14			Rate Only
3.2.4		Hard Rock Excavation	m <sup>3</sup>	35			Rate Only
3.2.5		Import from commercial source Sandy Clayey Silt to modify excavated gravel in Item 3.2	m <sup>3</sup>	670			
3.2.6		Extra Over for Item 3.2 for testing and mix design	Sum	1			
<b>3.3</b>		<b><u>Foundations</u></b> Excavate, dispose of waste, supply and pour complete support foundations with holding down bolts and earth connections detailed in the drawings including D-DT-5240:					
3.3.1	D-DT-5218s1A	STEEL FIRE BARRIER LATTICE SUPPORT FOUNDATION	ea	3			
<b>3.4</b>		<b><u>Yard Stone</u></b>					
3.4.1	SCSASABK2 Rev. 0	Supply, transport to site and spread a 150mm thick layer of 25mm-38mm stones.	m <sup>3</sup>	200			
<b>3.5</b>		<b><u>Concrete culvert</u></b>					
		Excavate in all material, supply, transport to site, construct and dispose of burden:					
3.5.1		Concrete culvert for the cables and pipes crossing concrete runway (4.5m).	m	13.5			
3.5.2	D-DT-5254	LV Cable Road Duct 110 DIA Pipes	ea	4			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
3.6		<b>Concrete Runway</b> Excavate in all material, supply, transport to site, construct and dispose of burden:					
3.6.1		4500mm x 300mm thick reinforced concrete runway as detailed on drawing (excludes Transformer Slip Ways) Reinforce concrete at cable trench crossings. Connect reinforcement to earth grid as per D-DT-5240s10	m	50			
3.7		<b>Concrete Slipway:</b> Excavate in all material, supply, transport to site, construct and dispose of burden:					
3.7.1		4500mm x 3000mm x 300mm thick reinforced concrete slipways. Reinforcing to be mesh according to table A, D-DT-5232. Connect reinforcement to earth grid as per D-DT-5240s10.	ea	2			
3.8	D-DT-5254s2C	<b>Stone Kerbing-1000mm (Concrete)</b>					
3.8.1		Concrete kerbing	m	75			
3.9		<b>Gate Ramp</b> Excavate in all material, supply, transport to site, construct and dispose of burden:					
3.9.1		Concrete Ramp outside 5m gate	ea	4			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)	
					Rate			
					Supply	Install		
<b>3.10</b>		<b><u>300mm Concrete Pipes</u></b> Excavate in all material, supply, transport to site, construct, backfill and compact. Depth varying from 0.6m to 1.5m:						
3.10.1		Diameter 300mm pipes from manhole outside each transformer plinth, leading to the oil holding dam	m	30				
3.11.2	D-DT-5231sA	An oil trap/filter in series with the oil dam	item	1				
<b>3.12</b>		<b><u>Manholes</u></b> Excavate in all material, dispose of waste, supply, transport to site and construct:						
3.12.1		Manholes:- 2-way as per GA Drawing	ea	3				
<b>3.13</b>		<b><u>Provisional Sums</u></b>						
3.13.1	8.5.2(a)	Allow the provisional sum of R 4000 for testing by the Engineer				R4 000.00	R4 000.00	
3.13.2		Allow the provisional sum of R 10 000 for a sump pump with a capacity of 2 l/s (120 l/min) with a head pump of 5 m				R10 000.00	R10 000.00	
<b>TOTAL CARRIED OVER</b>								

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
3.14	SABS 1200DB 8.3.2(a)	<b>Pipe Trenches</b>  <b>EXCAVATION</b> Excavate in all materials for trenches, backfill, compact, and dispose of surplus material for pipes of the following diameters:					
3.14.1		Up to 200 mm dia. for depths: 900 mm wide Over 0,0 m and up to 1,5 m	m	380			
3.14.2	8.3.2(b)	<b>Extra over for Item 3.15.1 for:</b>					
		(a) Intermediate excavation	m <sup>3</sup>	350			Rate Only
		(b) Hard Rock excavation	m <sup>3</sup>	700			Rate Only
3.14.3		Overhaul for disposal of unsuitable material	m <sup>3</sup> km	100			
3.14.4	PSDB2	<b>COMPACTION TESTS</b> Test compaction density for each layer placed and compacted at 25 m intervals	No	10			
3.15	SABS 1200GA 8,4,3	<b>Small Works</b> <b>Strength concrete</b>					
3.15.1		25MPa concrete basis including shuttering (excavation measured elsewhere)	m <sup>3</sup>	70			
3.15.2		Ditto but for oil dam	m <sup>3</sup>	18			
3.15.3		Supply and fix reinforcing including HD Bolts	kg	9680			
3.15.4	8.6	<b>Precast elements</b> Concrete marker posts according to Concor Precast, complete with reinforcing	No	6			
<b>TOTAL CARRIED OVER</b>							

[Signature Box]

Contractor

[Signature Box]

Witness 1

[Signature Box]

Witness 2

[Signature Box]

Employer

[Signature Box]

Witness 1

[Signature Box]

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
3.16	SABS 1200L 8.2.1	<b>Medium Pressure Pipelines</b> <b>PIPELINES</b> Supply, handling, laying, bedding, testing and disinfecting of uPVC pressure pipes:					
3.16.1		50mm dia class 12	m	60			
3.16.2	8.2.2	<b>Supply, handle, bed and lay, joint, with pressure pipes, test and disinfect:</b> uPVC Elbows	No	18			
3.17	SABS 1200LB PSLB	<b>Bedding (pipes)</b> Supply bedding					
3.17.1	8.2.1	Provision of bedding from Trench Excavation: a) Selected granular material b) Selected fill material	m <sup>3</sup> m <sup>3</sup>	45 10			
3.17.2	8.2.2	Borrow pits a) Selected granular material b) Selected fill material	m <sup>3</sup> m <sup>3</sup>	10 10			
3.18		<b>Subsoil Drain</b> Supply, handling, laying, bedding, testing of uPVC perforated pipes					
3.18.1		110 mm dia	m	380			
		<b>MANHOLES</b> Supply all material and construct manholes for sewer pipes to depths: (as per drawing)					
3.18.2		Over 0,0 m and up to 1,5 m	No	5			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
3.18.3		Supply and install bidem Class A4	m <sup>2</sup>	1700			
3.18.4		Supply and install +6,7 to - 26 Crushed stone	m <sup>3</sup>	320			
<b>3.19</b>	<b>SABS 1200M</b>	<b><u>Roadworks and Paving</u></b>					
	<b>SABS 1200DM</b>	<b>EARTHWORKS</b>					
3.19.1	8.3.3	Treatment of roadbed and compacted to 90% MOD AASTHO	m <sup>3</sup>	35			
3.19.2	8.3.4	Cut to sidefill, compacted to 90% MOD AASTHO	m <sup>3</sup>	15			
3.19.3	8.3.5	150mm selected layer compacted to 93% MOD AASTHO	m <sup>3</sup>	35			
3.19.4	8.3.7	Cut to spoil surplus material from bulk excavations	m <sup>3</sup>	30			
	1200ME	<b>SUBBASE</b>					
3.19.5	8.3.1	Construct 150mm subbase course with material excavated from borrow pits and compacted to 95% MOD AASTHO stabalized with 4% cement/slagment	m <sup>3</sup>	35			
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
3.19.6	1200MF 8.3.1	<b>BASE COURSE</b> Construct 150mm base course with material excavated from borrow pits and compacted to 97% MOD AASTHO stabalized with 4% cement/slagment	m <sup>3</sup>	35			
3.19.7	8.3.5	<b>STABILIZATION</b> Process base and subbase by stabalization (stabalizing agents measured elsewhere)	m <sup>3</sup>	35			
3.19.8	8.3.8	<b>STABILIZING AGENTS</b> Portland cement	ton	2.2			
3.19.9		<b>KERBING</b> Supply and install fig. 8 mountable kerbs	m	350			
3.19.10		Supply and install fig. 3 non-mountable kerbs	m	50			
3.19.11		<b>Wearing Course</b> Supply all material and construct 20 mm sand layer	m <sup>2</sup>	250			
3.19.12		Supply all material and lay 80 mm type SA concrete blocks	m <sup>2</sup>	250			
<b>TOTAL CARRIED OVER</b>							

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
3.20	SABS 1200DB 8.3.2(a)	<b>Pipe Trenches</b> <b>EXCAVATION</b> Excavate in all materials for Boxed Culverts compact, and dispose of surplus material for culverts of the following dimensions:					
3.20.1		<b>600 x 600</b> Spanning over storm water channel	m	18			
3.20.2	8.3.2(b)	<b>Extra over for Item 3.21.1 for:</b> (a) Intermediate excavation	m <sup>3</sup>	10			Rate Only
3.20.3		(b) Hard Rock excavation	m <sup>3</sup>	10			Rate Only
	8.3.3	<b>Excavation Ancillaries:</b>					
3.20.4	8.3.3.3	Compaction in road reserves	m <sup>3</sup>	10			
		<b>Extra over for Item 3.21.3 for backfill stabilized with:</b>					
		4% cement as to Engineers' instruction	m <sup>3</sup>	10			
		Overhaul for disposal of unsuitable material	m <sup>3</sup> km	10			
3.20.5	PSDB2	<b>COMPACTION TESTS</b> Test compaction density for each layer placed and compacted at 25 m intervals	No	5			
		<b>Concrete Boxed Culverts</b> Supply, handling, laying, bedding, testing concrete class 50D pipes:					
3.20.6		600 x 600 mm	m	18			
		<b>Manholes and Kerb inlets</b> Supply all material and construct					
3.20.7		Storm water Outlet	No	1			
<b>Subtotal carried to Item 3 of Summary</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
4	SABS 1200A	ERECTION OF STEELWORK					
4.1		<b>Equipment Support:</b> Supply, transport to site and Install the following equipment.					
4.1.1	D-DT-5218s2A	STEEL FIRE BARRIER - 6M LATTICE SUPPORT & IRB SHEETING STEELWORK	ea	3			
4.1.2	D-DT-5273	GALVANISED ANGLE IRON FOR FIXING LABELS TO PALLISADES	ea	21			
<b>Subtotal carried to Item 4 of Summary</b>							

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
5A		<b>INSTALLATION OF EQUIPMENT</b>					
5.1		<b>Functionality Assessments:</b> It is the responsibility of the substation Contractor to conduct functionality assessments on existing substation equipment upon inception and completion of the project. Assessments to be done by an approved person					
5.1.1		Supply the SF6 gas for 132kV Breaker, conduct speed test and contact resistance	ea	2	0		
5.1.2		Calibration and alignment test and certificates for all Isolator	ea	2	0		
5.1.3		CT tests – Tan Delta Test	ea	6	0		
5.1.4		VT tests – Tan Delta Test	ea	6	0		
5.1.5		Isolator tests – Tan Delta Test	ea	9	0		
5.1.6		Transformer electrical tests	ea	1	0		
5.1.7		NEC electrical tests	ea	1	0		
5.1.8		Transformer oil tests – One (1)	ea	1	0		
<b>TOTAL CARRIED OVER</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
5.1.9		Filtering of NECRT oil if test results do not comply, i.e. Moisture, Acidity, Electric Strength	ea	1			
<b>5.2</b>		<b><u>Provisional Sum</u></b>					
5.2.1		Load and transport power transformer to manufacturers site. Supply, purify and refill transformer with oil. Load and transport power transform back to substation site, offload and rig it onto the plinth. Connect, test and commission the transformer once in position.	Item	1	R 3 850 000.00	R 700 000.00	R 4 550 000.00
5.2.2		Provisional sum for extending the existing fence to cover the Eskom section of the substation, inclusive of foundations, posts and all accessories.	m	30	R 3 000.00	R 500.00	R 105 000.00
<b>Subtotal carried to Item 5A of Summary</b>							

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

[Signature Box]

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Rate
					Supply	Supply	
5B		<b>INSTALLATION OF EQUIPMENT</b> <b>Cont.</b>					
5.2		<b>Miscellaneous:</b> Supply, transport to site and install the following equipment:					
5.2.1	D-DT-6059	CLEVIS-BALL 16mm IEC 120kN	ea	6			
5.2.2	D-DT-6061	SOCKET-TONGUE 16mm 120kN	ea	6			
5.2.3	D-DT-6081s1	JOINT, BALL PORTABLE EARTH 20kA G/S	ea	12			
5.2.4	D-DT-6050s8	PADLOCK, ST OPER MASTER MUNICIPALITY	ea	4			
5.2.5	D-DT-6097	BOLT ASSY: FASTENER; M12; LG 65 MM; HEX;8.8	ea	104			
5.2.6	D-DT-5047	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	ea	18			
5.2.7	D-DT-6097	BOLT, HX GALV M16x75mm W/HXNUT	ea	64			
5.2.8	D-DT-8018s1	PIPE, PVC CABLE 110NB RIGID	ea	1			
5.2.9	D-DT-3014s2	WASHER, RD FLAT M16 29.6D 18.25D HL	ea	48			
5.2.10	D-DT-3014s7	WASHER, TAPER GALV M16 38SQ 18.0D HL	ea	48			
<b>TOTAL CARRIED OVER</b>							

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	TOTAL BROUGHT FORWARD		Price (R)
					Rate		
					Supply	Install	
5.2.11	D-DT-6065s1	BRACKET-CONTROL CABLE	ea	48			
5.2.12	D-DT-6370	COVER:INSULATION;DIA 140 X LG 250 MM	ea	6			
5.2.13	D-DT-6292	TAPE, ELECT EPR 18mm W x 0.76mm THK	ea	6			
5.2.14	D-DT-6370	COVER:INSULATION;DIA 330 X LG 290 MM	ea	6			
5.2.15	D-DT-6045	STRIP:FLAT;WD 50 MM;THK 3.15 MM;CU	m	8			
5.2.16	D-DT-3014	WASHER:SQ FLAT M12 50SQ 14.25D HL D3014	ea	8			
5.2.17	D-DT-6087	SPACER COND 38.3mm-150mm CRS S2	ea	6			
5.2.18	D-DT-8006	TERM KIT 3C 11kV 50-95 SQ.0D XLPE	ea	4			
5.2.19	D-DT-3102	LUG CRIMP 95 SQ.CU M12 FIXING HOLE XLPE	ea	12			
5.2.20	D-DT-6097	BOLT, HX GALV M16x40mm W/HXNUT	ea	20			
<b>Subtotal carried to Item 5B of Summary</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
5C		INSTALLATION OF EQUIPMENT cont.					
5.3		<b><u>Clamp Assemblies:</u></b> Supply, transport to site and install the following clamp assemblies.					
5.3.1	D-DT-6042	CLAMP, PISTOL 4B 20mm-30mm	ea	6			
5.3.2	D-DT-7022	CLAMP, REV PIST 3B 6.0 TO 16.0	ea	4			
5.3.3	D-DT-6018	CLAMP B/COMP 26.5mm PALM 0DG EPC-A	ea	12			
5.3.4	D-DT-6018	CLAMP B/COMP 26.5mm PALM 45DG EPC-B	ea	12			
5.3.5		Black Polypropylene cable clamp	ea	26			
<b>Subtotal carried to Item 5C of Summary</b>							

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
5D		<b>INSTALLATION OF EQUIPMENT cont.</b>					
5.4		<b>Stringing and Conductor</b> Supply, Transport to site and Install the following conductors and Tubes:					
5.4.1	D-DT-6000	TUBE AL 120mm OD x 4mm W THK 12m L	ea	2			
5.4.2	D-DT-3136	Stringers and droppers – Bull Insulated	m	78			
5.4.3	D-DT-3136	Stringers and droppers – Centipede inclusive of vibration damping in tubes	m	288			
5.4.4	D-DT-3136	Stringers and droppers – Hornet Insulated	m	6			
5.4.5	D-DT-8001	CABLE 3C 11kV 95mm SQ.XLPE	m	40			
5.4.6		CABLE 1C kV 630mm SQ.XLPE	m	0			
5.5		<b>Pipe for Lighting:</b> Supply, Transport to site and Install the following equipment.					
5.5.1	D-DT-5217 Sheet 6	PVC pipes, 50mm diameter (used in foundation, 3m per foundation)	m	9			
5.5.2	D-DT-3070	CABLE GLAND ADJUST No. 1	ea	6			
<b>Subtotal carried to Item 5D of Summary</b>							

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
<b>6</b>		<b>SUBSTATION LABELS AND SIGNS</b>					
<b>6.1</b>	<b>D-DT-5273</b>	<b>Equipment Labelling</b>					
6.1.1	D-DT-5073	Supply, Transport to site and Install outdoor equipment labels as specified in Bill of Material	ea	20			
6.1.2	D-DT-6114	BRACKET, FIXING BRACKET FOR EQUIPMENT LABELS	ea	20			
6.1.3	D-DT-5237s14	GALVANISED ANGLE IRON FOR FIXING LABELS TO PALLISADES	ea	21			
6.1.4	D-DT-5073	Substation, Control room, Battery room and Switching room labels	ea	4			
<b>6.2</b>	<b>D-DT-6114</b>	<b>Phase Labels</b>					
6.2.1	D-DT-6114	Phase marker plate Blue/Red/White	ea	4			
6.2.2	D-DT-6114	Phase marker plate bracket	ea	4			
6.3		<b>Signs</b> Supply, Transport to site and Attach to Security Fence and Gates according to Eskom specification. Contractor to ensure that signs are attached at the correct positions / places. Refer to SCSASABK3 REV. 0 p.26 to 28					
6.3.1	D-DT-6072	SIGN, ABC - UNAUTHORISED ENTRY	ea	15			
6.3.2	D-DT-6073	SIGN, DE - FIRE/FIRST AID	ea	4			
6.3.3	D-DT-6074	SIGN, F - PROHIBITIVE (VARIOUS)	ea	4			
6.3.4	D-DT-6075	SIGN, G - HARD HAT AREA	ea	4			
6.3.5	D-DT-6112	SIGN, DCSS 1 – BATTERY ROOM	ea	1			
6.3.6	D-DT-6112	SIGN, DCSS 2 – BATTERY CABINET	ea	1			
6.3.7	D-DT-6112	SIGN, DCSS 3 – COMBINATED BATTERY ROOM	ea	1			
6.3.8	D-DT-6113	SIGN, GA 20 – INFORM. – EMER. SHOWER	ea	1			
6.3.9	D-DT-6113	SIGN, GA 19 – INFORMATIVE - EYE WASH	ea	1			
6.3.10	D-DT-6113	SIGN, PV 5 – DRINKING WATER PROHIB.	ea	1			
<b>Subtotal carried to Item 6 of Summary</b>							

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item No.	Refer	Description of the item	Unit	Qty	Rate		Price (R)
					Supply	Install	
<b>7</b>		<b>DISMANTLING:</b> Dismantle and transport to Bela Bela store the following existing support structures and equipment. Dispose of burden when necessary.					
7.1.1	N/A	Dismantle the mesh fence	m	77			
7.1.2	N/A	Dismantle all None-standard Foundations, Plinths, Supports and equipment	ea	15			
7.1.3	N/A	Remove Transformer Bund Wall	ea	2			
<b>Subtotal carried to Item 7 of Summary</b>							

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## SUMMARY

Item No.	Description of the item	Unit	Price (R)
1	Preliminaries	R	
2	Installation of earth grid	R	
3	Civil work	R	
4	Erection of Steel Work	R	
5A	Installation of equipment(5A)	R	
5B	Installation of equipment(5B)	R	
5C	Installation of equipment(5C)	R	
5D	Installation of equipment(5D)	R	
6	Substation Labels and Signs	R	
7	Dismantling	R	
Total of the Prices excluding VAT		R	
10% Contingencies		R	
Sub Total		R	
Value Added Tax		R	
Total of the Prices including VAT		R	

SIGNATURE OF TENDERER: .....

NAME IN BLOCKLETTERS: .....

DATE: .....

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## Specifications /Standards

List and attach all standard specifications and other documentation applicable to this contract. Publicly available standard documents should not be attached as they can be obtained directly from the respective publishers.

Note: Revision no of Specifications/Standards to be confirmed by all parties prior to the awarding of the contract.

Employer specific variations to standard specifications are also listed and attached.

No.	Rev.	Title and Publisher	Attached Y/N
SCSASABK3	0	Distribution Standard Part 7: Substation Section 2. Generic Substation Design	N
ESKASAAN0	1	Standard for labelling of high voltage equipment - Eskom	N
TRMSCAAC5	3	Design and manufacture of high voltage equipment labels – Eskom	N
SABS 135	1991	ISO metric bolts, screws and nuts (hexagon and square) (course thread free fit series) - SABS	N
SABS 763	1988	Hot dip (Galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire) - SABS	N
SABS 1200	—	Standard specification for civil engineering construction - SABS	N

## List of contracts drawings

List and attach all drawings applicable to this contract.

CIVIL ENGINEERING:	
C 5.1.1	SITE PLAN: GENERAL LAYOUT
C 5.1.2	SITE PLAN: BASE LAYOUT
C 5.1.3	SITE PLAN: ACCESS ROAD LAYOUT A
C 5.1.4	SITE PLAN: ACCESS ROAD LAYOUT B
C 5.1.5	SITE PLAN: SUB-SOIL LAYOUT
C 5.1.6	SITE PLAN: SUB-SOIL PUMP SUMP
C 5.1.7	SITE PLAN: STORM WATER SPILLING BASIN
C 5.1.8	OIL DAM – ELECTRIC PUMP AND OUTLET SUMP
C 5.1.9	OIL DAM – CONCRETE COVER AND TRAP DOOR
C 5.1.10	TWO WINDING TRANSFORMER PLINTH, SLIPWAY AND DRAINAGE & OIL CATCHMENT AREA
C 5.1.11	STORMWATER LAYOUT AND LEVELS
C 5.1.12	TUBULAR SUPPORT FOUNDATIONS DETAILS – 132KV CIRCUIT BREAKER
C 5.1.13	LATTICE SUPPORT FOUNDATIONS DETAILS – 132KV ISOLATOR
C 5.1.14	LATTICE SUPPORT FOUNDATIONS DETAILS – MEDIUM EQUIPMENT
C 5.1.15	LATTICE SUPPORT FOUNDATIONS DETAILS – MV CABLE SEALING END
C 5.1.16	LATTICE SUPPORT FOUNDATIONS DETAILS – 21m LIGHTNING MAST
C 5.1.17	LATTICE SUPPORT FOUNDATIONS DETAILS – STEEL FIRE BARRIER
ELECTRICAL ENGINEERING:	
C 5.1.18	ELECTRIC DIAGRAM - OUTDOOR
C 5.1.19	ELECTRIC DIAGRAM - INDOOR
C 5.1.20	GENERAL ARRANGEMENT
C 5.1.21	SINGLE LINE DIAGRAM
C 5.1.22	PROTECTION DIAGRAM



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

## 2. Technical Specifications

Note: Unless otherwise specified the material shall be in accordance to the specifications listed in the Municipality ENC Small Works Contract.

### 2.1 Preliminaries

#### 2.1. A Work Specification

2.1. A.1 The contractor shall allow for the following specific requirements of Municipality:

i)Office accommodation for meetings held on site.

2.1. A.2 In addition to the specific requirements of Municipality, detailed above, the contractor shall allow for his own preliminaries and/or overhead costs as required for the execution of the contract. It shall be divided into the following two sections:

i)Fixed-charge items such as: (SABS 1200A - 8.3)

- Contractual requirements.
- Establishment of facilities on site such as plant, sheds, water,
- Electricity, lighting, etc.
- Removal of facilities from site after completion of work.
- Any other fixed-charge items.

ii)Time related items such as: (SABS 1200A - 8.4)

- Contractual requirements.
- Operation & maintenance of facilities on site.
- Supervision.
- Company and head office overhead costs.
- Other time related items.

#### 2.1. B Material Specification

The specific contractor shall supply, transport and off-load his own facilities such as sheds, water, electricity, lighting, etc. on the site. The contractor shall also be responsible to remove all facilities established on site after his work is completed.

### 2.2 Site Works

The Contractor shall remove all vegetation and neutralise the site before construction can begin.

### 2.3 Installation of Earth grid

#### 2.3. A Work Specification

NOTES:

- i) The earth grid shall be installed in accordance to Eskom Earthing Standard D-DT-5240 and to Earth grid Layout drawing.
- ii) All labour and transport cost must be included in quoted rate.

2.3. A.1 Excavate Earth grid trenches shall include:

- i) Excavating in all material 600mm wide trenches.
- ii) The main earth grid shall be laid in 1000mm deep trenches.
- iii) Risk of collapse and keeping excavations free of water shall be included in the quoted rate.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.3. A.2 Installing the earth grid shall include:

2.3. A.2.1 Horizontal earth electrode:

- I) Round annealed copper rod with a 10-mm diameter, is to be used for the earth electrode.
- II) A 200mm layer of imported soil with a resistivity less than  $100\Omega/m$  shall be compacting at the bottom of the trench before placing the copper conductor in the trench.
- III) The copper conductor shall be placed on this bed of compacted soil.
- IV) The main earth grid trenches shall be back filled and compacting with imported soil with a resistivity less than  $100\Omega/m$ , in layers not exceeding 150mm.
- V) Copper rods shall be installed under the switch house foundation and welded to the main substation earth grid.

2.3. A.2.2 Vertical Earth Electrode:

- I) Round annealed copper rod with a 10-mm diameter, is to be used for the earth electrode.
- II) Holes with an inside minimum diameter of 100 mm must be drilled to the required depth. The vertical copper electrodes (two rods per hole) will be positioned in the hole, which will then be filled with conductive concrete. It must be poured as slurry into the holes.

2.3. A.3 Welding of joints, crossings and earth tails shall include:

- I) All copper rod crossings and joints shall be welded according to Earthing Standard D-DT-5240. This includes the vertical electrodes welded to the horizontal electrodes.
- II) At positions indicated on Earth grid drawing, earth tails shall be welded to the earth grid.
- III) These earth tails shall protrude above the substation floor level, long enough for bonding to the substation fence and steel support footings.
- IV) No joint in earth tails shall be made above the ground level.
- V) The earth tails for the switch house shall be welded to the main substation earth grid.
- VI) Bonding of the earth tails to the steelwork, equipment and substation fence is covered in the documents handling the installation of the relevant parts.
- VII) Earth tails for bonding to the terminal towers shall be installed as shown on the Earth grid Layout drawing. The line contractor shall do the bonding to the terminal tower.

2.3. A.4 Testing of earth grid shall include:

- I) The earth resistance of the earth grid shall be tested before and after the terminal tower is connected to the earth grid.
- II) The earth resistance of the earth grid shall be tested before the earth wires of the line are connected to the earth grid.
- III) The preferred method for testing the earth grid resistance is the 'Wiener Bridge' method.
- IV) The test shall be done from one of the corners of the main substation earth grid.
- V) The measurements shall be carried out and logged by the Project Engineer.

2.3. A.5 Additional earthing shall include:

- I) The total earth resistance of the earth grid before the terminal tower is connected should be less than the resistance calculated in Volume 2 Annexure A2.
- II) If the values for the earth resistance for any are above the mentioned values, additional vertical earthing should be installed, after the project Engineer has been notified.
- III) The additional vertical electrodes shall be welded to the existing horizontal grid according to Earthing Standard D-DT-5240.
- IV) The earth resistance shall again be measured as described in 2.3.A.4.
- V) If the value for the earth resistance is still above the mentioned values the Project Engineer shall be notified once again.

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

**2.3. B Material Specification**

Unless otherwise specified, The Contractor shall supply the copper and all the material necessary for installing the earth grid. The contractor shall further be responsible for the safekeeping of the copper.

2.3. B.1 Installing the earth grid:

- i) 10mm Diameter annealed copper rods shall be used for the main earth grid conductors as well as for the counter poise conductors.
- ii) The resistivity of the imported soil shall be less than 100Ωm for the soil to be back filled in the earth grid trenches.

2.3. B.2 Welding of joints:

- i) Unless otherwise specified the earth tails shall be 50x3mm flat copper strips.

2.3. B.3 Testing earthing resistance:

- i) The Project Engineer shall carry out the tests and compare with Contractor

2.3. B.4 Additional earthing:

- i) 10mm Diameter annealed copper rods shall be used for the additional counter poise conductors.
- ii) All material for the additional earthing shall be supplied by the contractor.
- iii) The contractor shall book the material from the Customer’s store, transport and off-load all material on site. The contractor shall also supply all the equipment necessary for installing the earth grid.

2.3. B.5 Conductive Concrete for vertical electrodes:

The conductive concrete must have a resistivity of less than 0.01 Ωm. It must be made from high quality (99% Carbon) petroleum coke with a closely graded particle size. The mixture of the conductive concrete should be 7 parts carbon, one part cement.

**2.4 Facilities**

The ventilation airbricks and the gauze wired vents should be sealed off. Vents/Filters shall be installed on the control room door. Aircon/s shall be installed in the control room if required.

**2.4. A Work Specification**

2.4. A.1 Building the Control Room shall include:

- i) Building of control room according to Eskom standard drawings.
- ii) The control room shall be equipped with aircon/s if required.
- iii) The control room shall be built and equipped according to SABS 1200.
- iv) The power and control cables shall be installed on cable trays on the inside of the control room.
- v) The control cable shall enter the control panels from the top.
- vi) All gutters and corrugated iron shall be bonded to the control room earthing with earth tails.
- vii) The earth tails shall be installed in the foundations as indicated in drawing D-DT-5240.
- viii) The earth tail shall be fixed to the floor according to Eskom Earthing Standard D-DT-5240.
- ix) The equipment and panels shall be bonded.

2.4. A.2 Attaching warning signs:

- i) Warning signs shall be attached to the outside of each door of the control room.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- ii) On the doors the following signs shall be attached:
  - Unauthorised entry and interfering prohibited.
  - Warning of electrical shock
  - Procedure in case of fire
  - First aid treatment of electrical accidents

2.4. A.3 Install cable trays:

- i) All cable trays and accessories are based on the O-line product range:
- ii) The cable trays shall be installed as shown on drawing D-DT 5075.
- iii) All cable trays shall be 600mm wide *GRIDSPAN GS50*.
- iv) The cable trays shall be attached to surface mounted *OLISTRUT* channels on the outside of the switch house.
- v) The cable trays shall be supported by a 600mm cantilever support arm (*OLCA01*) attached to surface mounted *OLISTRUT* channels on the inside of the switch house.
- vi) The cable trays above the switchgear shall be supported by *OLISTRUT* channels and threaded rods hanging from the roof.
- vii) The cable tray supports shall be spaced approximately 2m from one another.
- viii) All cable trays on the inside of the switch house shall be on the same level.
- ix) The cable trays shall be installed so that there will be at least 400mm between the cable tray and the control panels.
- x) The cable trays shall not be lower than 2.4m from the floor level.
- xi) The control cables going down from the cable tray to the switchgear shall be vertically supported with 101mm wide light duty cable trays (*PT19*).
- xii) These vertical trays shall be bolted to the horizontal tray.
- xiii) A cable support bracket as shown on drawing D-DT 5075 shall support the power cables.
- xiv) The power shall be clamped to the cable support bracket with 78mm wide *OLUC* cable clamps.

**2.4. B Material Specifications**

The contractor shall supply, transport and off-load the all material and equipment necessary for building the control room according to drawing D-DT 5075.

2.4. B.1 Building of the Control Room.

- i) The material for the control room shall be as specified on drawing D-DT-5075.

2.4.B.2 Warning signs:

- i) The signs shall be made of durable UV stabilised plastic. (Supplied by the Contractor).

**2.5 Civil Works**

**2.5.A Work Specification**

NOTES:

- i) All foundations shall be erected according to Eskom’s standard foundation drawings.
- ii) All work shall be in accordance the relevant SABS 1200 documents and the latest revision of drawing D-DT 5085.
- iii) All labour and transport cost shall be included in quoted rate.
- iv) Risk of collapse and keeping excavations free of water shall be included in the quoted rate.

2.5. A.1 Foundations:

- i) Supply and erect complete foundations to standard Eskom drawings including formation, reinforcing, holding down bolts, back filling and compaction around the foundations.
- ii) A steel template shall be used for setting all holding down bolts.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

iii) Formation shall be extended to at least 100mm below the natural ground level.

2.5. A.2 Transformer plinths:

i) Supply and erect complete transformer plinths and runways according to drawing D-DT-5232 including formation and reinforcing. A sump, leading to the oil holding dam shall be established inside all bund walls.

2.5. A.3 Cable trenching and kerbing:

- i) Supply and install complete cable trench as shown on Foundation Drawing including back filling and compaction around the trenches.
- ii) The substation kerb shall enclose the substation as shown on Foundation Drawing.
- iii) All ramps shall be a concrete slab reinforced with mesh as shown on Foundation Drawing.
- iv) Excavate, supply and construct 300mm concrete pipes from the bund wall of each transformer to the oil holding dam.
- v) Construct three concrete manholes with covers, in accordance with drawing Foundation drawing. Foundation drawing for orientation of the manholes.
- vi) Excavate, supply and construct an oil holding dam as per drawing Foundation drawing. Supply and install an oil holding dam. The outlet of the oil trap (bag filter) shall be connected to the bat wall.

2.5. A.4 Yard stoning:

- i) The 25mm-38mm yard stone shall be spread over the entire substation yard to a thickness of at least 150mm.
- iii) The yard stone shall be lightly compacted to set levels.

2.5. A.5 Herbicides, insecticides, etc. shall include:

- i) Treating of yard surface with Municipality approved herbicides, insecticides, etc.
- ii) Forming of V-grooves along foundation walls and treating with additional insecticides approved by Municipality.

**2.5. B Material Specifications**

The contractor shall supply, transport and off-load all material and equipment necessary for completing all the civil works.

2.5. B.1 Foundations:

- i) All material used for the foundations shall be in accordance to the relevant foundation drawings and SABS documents mentioned on these drawings.
- ii) All holding down bolts complete with nuts. The contractor shall supply washers.
- iii) All holding down bolts shall be galvanised to SABS 763 for all foundations.
- iv) All holding down bolts shall be in accordance to SABS 135 with a strength grade of 4.6.

2.5. B.2 Cable trenching and kerbing:

- i) The concrete used for the cable trench walls shall be in accordance to the Foundation Drawings.
- ii) The concrete covers shall be reinforced with mesh reinforcing in accordance to Foundation Drawings.
- iii) The sand on the inside of the cable trench shall be river sand.

2.5. B.4 Yard stoning:

i) The stone shall be clean, hard, sound crushed stone having a nominal size not less than 25mm as approved by Municipality.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2.5. B.5        Herbicides, insecticides, etc:

- i) All herbicides, insecticides, etc. and the application thereof shall be in accordance to Municipality's corporate environmental policy.
- ii) Prior to the use of any herbicides, insecticides, etc. approval from Municipality's environmental representative shall be obtained.
- iii) Consultation on herbicides and the effectiveness thereof, as well as advice on any other aspect of herbicides, can be obtained from Municipality

## **2.6 Steelwork**

### **2.6. A Work Specification**

NOTES:

- i) Unless otherwise specified, all steelwork shall be standard equipment supports according to Eskom's standard equipment support drawings.
- ii) All labour and transport cost must be included in quoted rate.

2.6. A.1 Erecting steelwork shall include:

- i) Supply and erect all steelwork shown on Steelwork Marking Plan Drawing and according to standard Eskom drawings.

### **2.6. B Material Specification**

Unless otherwise specified, the Contractor shall supply all material necessary for installing the steelwork.

2.6. B.1 Erecting steelwork:

- i) The steel for the supporting structures shall be in accordance to the specific support structure drawings.
- ii) The steel shall be hot dipped galvanised to SABS 763.

## **2.7 Installation of Equipment**

### **2.7. A Work Specification**

NOTES:

- i) All work shall be in accordance to Eskom's standards and specifications:
- ii) Unless otherwise specified, all installed equipment shall be labelled.
- iii) All equipment shall be positioned and all necessary stringing and earth bonding shall be done according to the following drawings:
  - Station electrical diagram.
  - General Arrangement diagram.
  - Sections diagram.
- iv) All labour and transport cost must be included in quoted rate.

2.7. A.1 New Equipment:

- i) Establish a new equipment as per drawings.
- ii)

2.7. A.2 Clamp Assemblies:

- i) All clamps shall be installed as indicated on the Sections and Clamp Layout drawing.
- ii) The clamp assemblies shall be in accordance to the manufacturers' specifications.
- iii) All conductors shall be cleaned to a shiny finish at the point where the conductor clamps are to be applied.
- iv) A non-oxidation compound, approved by Municipality, shall be applied on all conductor and earthing connections.
- v) After the application of the compound, the conductor shall be brushed with a steel brush.
- vi) The clamp assemblies will be done and torqued to the manufacturers' specifications.

2.7. A.3 Stringing and Conductors:

- i) All stringing shall be done in accordance with General Arrangement and the Sections and Clamps Layout Drawings.
- ii) The incoming HV section to the Busbar shall be strung with Centipede conductor.
- iii) The HV Transformer bays shall be strung with Centipede conductor
- iv) The Bus-coupler shall be strung with twin Bull conductor
- v) The stringing on the MV side of the transformer to the cable end support shall be insulated Bull conductor.
- vi) Hornet conductor shall be used for the 11kV Surge Arrestor

2.7. A.4 Earth Ball Joint Portable Earth

- i) Install portable earth balls on the isolators' steelwork.

2.7. A.5 Equipment labelling:

- i) Equipment labels shall be attached according to the Eskom specification to the relevant equipment support steelwork.
- ii) The label shall be attached to the supporting steelwork with a minimum of two M10 galvanised bolts with nuts and washers.
- iii) All labelling shall be in accordance to ESKASAAN0 and TRMSCAAC5.
- iv) The outdoor breaker and isolator labels shall be fitted so that it is visible from the operating points.

2.7. A.6 Equipment bonding:

- i) Bonding of all steelwork to 50x3mm earth tails in accordance to the Earthing Standard D-DT5240.
- ii) The steel support bolts shall be used to bond the earth tail to the equipment support footings.
- iii) The earth tails shall be fixed to the steelwork according to the Earthing standard D-DT 5240.
- iv) Where connections are made onto painted steelwork the paint shall be removed over a minimum area to allow good contact between surfaces.
- v) A 50x50mm area around the hole on the earth tail used for bonding shall be cleaned before the earth tail is bonded to the steel support.
- vi) A non-oxidising paste, approved by Municipality, shall be put between the cleaned earth tail surface and the steel support before it is bonded.
- vii) After bolting any scraped area not covered by the copper connection shall be painted using original types and colours of paints.
- viii) No joints shall be made above the ground level.
- ix) All visible copper earth tails protruding above the ground shall be painted using the same type and colour paints as the equipment or the equipment support to which it is bonded.

2.7. A.7 Lightning/lighting masts:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- i) Three 21m-lighting/lightning masts (with spikes) shall be installed according to D-DT 5217. and the lamps attached at 6m. Refer to substation layout drawing for the orientation of the lamps on masts.

**2.7. B Material Specification**

Contractor shall supply the long lead time primary equipment listed in Bill of Material. The Contractor shall also supply the rest of the electrical components and material required completing the substation.

The contractor shall also supply all the equipment necessary to install the equipment. All materials supplied by the contractor shall be in accordance with Eskom standards and specifications and the Eskom buyers' guide. All materials shall be approved by Municipality and be marked with the manufacturers' logo/trade mark and specific part number.

2.7. B.1 New Equipment

- i) The holding down bolts for the equipment shall be supplied by the contractor.
- ii) All holding down bolts with nuts and washers shall be hot dipped galvanised to SABS 763.
- iii) All holding down bolts shall be in accordance to SABS 135 with a strength grade of 4.6.

2.7. B.2 Clamp assemblies:

- i) Clamps shall be as in the Substation Bill of Materials.

2.7. B.3 Stringing and conductors

2.7. B.4 Earth Ball Joint Portable Earth

2.7. B.5 Equipment labelling:

- i) The contractor shall supply all fixing bolts with nuts and washers for the labels.
- ii) All bolts nuts and washers shall be hot dipped galvanised to SABS 763.
- iii) All bolts shall be in accordance to SABS 135 with a strength grade of 4.6.
- iv) Contractor shall supply all labels.
- v) The supports for the labels shall be supplied by the contractor according to 0.54/400 and 0.54/402 (Including concrete foundations if required).
- vi) All labels shall be in accordance to ESKASAAN0, TRMSCAAC5.

2.7. B.6 Equipment Bonding:

- i) All bolts with nuts and washers used for bonding shall be hot dipped galvanised to SABS 763 and shall be supplied by the contractor.
- ii) All bolts shall be in accordance to SABS 135 with a strength grade of 4.6.

2.7. B.7 Lighting/lightning masts

**Cable Work**

**2.8. A Works Specification**

8. a.1 Installation of the control cable shall include:

- i) All control cables shall be laid, glanded, numbered and terminated according to the protection drawings, specifications and bill of material.
- ii) Cable lengths shall be made to reach the furthestmost terminal block in the panels, JB, etc. No joints shall be made.
- iii) Spare cores shall be earthed at one end only and not at both ends.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- iv) Ferrule numbering shall be done according to protection drawings.
- v) Correct sizes of ferrule numbers shall be used per cable size and to Eskom standard - black lettering on yellow a background only (D-DT 6069).
- vi) All cable or wire numbering shall be so that it is readable from one position. Numbering shall not be inverted.
- vii) Where insulated lugs are used the correct crimping tool shall be used.
- viii) The correct size glands shall be used per cable size.
- ix) The correct type of lugs shall be used per cable size.
- x) The screen of the control cable shall be earthed according to D-DT 5085.

**2.8. B Material Specification**

Unless otherwise specified, the contractor shall supply, transport and off-load all the material and equipment necessary for installing all the cables in the substation.

8. B.1 Install control cable:

- i) The control cable, glands, lugs, etc. shall be as on the protection bill of materials.
- ii) The cable strand numbering shall be black lettering on yellow a background only (D-DT 6069).

8. B.2 Testing of Breakers and Isolators-settings:

- i) The installation for the breakers must include the following: fill with gas, speed test contact resistance test, pre- commissioning and commissioning. Contractor must provide settings certificate with test results.
- ii) The installation for the Isolators must include the following: install, do settings, alignment test. Contractor must provide settings certificate with test results.

**Erecting Substation Fence**

**2.9. A Works Specification**

NOTES:

- i) All work shall be in accordance to Eskom’s standards and specifications.
- ii) All labour and transport cost must be included in quoted rate.

2.9.A.1 Fencing shall include:

- i) Installing the complete security fence (palisade fencing) on the perimeter of the substation extension as shown on the Foundation drawing according to D-DT 5237 including excavations, foundations and erection of the fence.
- vi) Earth tails shall be bonded to the security fence at all strain, corner posts in accordance to Eskom Earthing Standard D-DT 5240.
- vii) All ramps shall be a concrete slab reinforced with mesh reinforcing in accordance to 2-ET-14816 sheet 3.

2.9.A.2 Installing complete gates shall include:

- i) 3 gates (5m wide)shall be installed.
- ii) All gates shall be bonded to the gate post with hot dipped galvanised bolts.

2.9.A.3 Installing signs shall include:

- i) Warning sign shall be installed on the security fence next to the gate.
- ii) All signs and notices shall be in accordance to SABS 1186.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- iii) The following signs shall be attached to the fence next to the gate:
  - Unauthorised Entry & interfering prohibited.
  - Procedure in case of fire.
  - Warning of electrical shock.
- iv) On the fence a warning of electrical shock sign must be attached.
- v) The signs on the fence shall not be more than 15m apart.

## 2.9.B Material Specification

The Contractor shall supply the fence, the gates and the signs as well as the necessary material for erecting the substation fence and attaching the signs.

## 3. Safety Risk Analysis

### 3.1 Risk Analysis

Workplace must be barricaded for the safe execution of the task. Danger warning signs must be attached onto the barricading net. No trenches or holes that must be abandoned without barricading and without danger warning signs attached. Safety clothing must always be worn by the personnel on site at all times, none of the personnel must be allowed to the workplace without wearing complete safety clothing, i.e. safety shoes, safety hat, overalls and glasses if necessary.

Municipality approved site supervisor/Clerk of works must frequently visit the site during the construction period. The site supervisor must daily compile a risk management plan and communicate the plan to all the workers on site. Safety meetings must be conducted on site on frequent basis, to alert workers and encourage workers to work safely. The site supervisor must compile a safety report. A copy of the safety report must be submitted to the Project Coordinator, who must then distribute to Consultant and Capital Program departments

### 3.2 Risk Analysis Specification

#### A. Note:

The table below presents a list of typical risks that will most likely be experienced while constructing Bela Bela Substation project

Typical Risk	Substation
Work in elevated positions / on ladders / on scaffolding / from crane buckets	X
Operating of cranes / vehicle mounted cranes	X
Static electricity/induction	X
Work with chainsaws / mechanical cutters / hydraulic crimping tools	X
Materials handling/ heavy equipment handling	X
Conductor stringing, tensioning and clamping	X
Vehicle risks	X
Work in open trenches/excavations	X
Biological/Health risks (Camps)	X
Weather related risk (UV, heat, cold)	X
Environmental risks	X
Ergonomic risks (confined spaces – body position, fatigue)	X
Fire risks	X
Public safety risks	X
Outages	X
Falling from heights	X

Falling objects	X
Traffic roads and/or Railways	X

#### 4. Health and Safety Specification

Contractors shall comply with DISPVABF 3: Occupational Health and Safety requirements to be met by Contractors and Sub-Contractors employed by Volt Consulting. This Act will be included in the document as Annexure. Please see to it that the necessary attention is given to the document and that it is compiled to. **Please ensure that a signed copy of Annexures are kept on site as well as with the Project Manager.**

Contractors shall comply with the **Construction Regulations** (Annexure A) and shall draw up a **Health and Safety Plan**.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

## **OUTDOOR POWER PLANT Bill OF MATERIAL**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**1.1. LINE OR TRANSFORMER BAY - HIGH STRUNG 132KV CENTIPEDE (D-DT-4301s2 OR D-DT-4313s1)**

**2 x 132kV TERMINAL SUPPORT COLUMNS & BEAM CENT (D-DT- 4662s1)**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY	TOT
1	COLUMN 132kV LATTICE SUPPORT FOUNDATION	D-DT-5252s1A	ea	2	4
2	COLUMN - 132/C LATTICE STEEL STEELWORK	D-DT-5252s2A	ea	2	4
3	BEAM - 132/39.37/1 LATTICE STEEL STEELWORK	D-DT-5252s2G	ea	1	2
4	EARTHWIRE SUPPORT - 132/EW LATTICE STEEL STEELWORK	D-DT-5252s2E	ea	2	4
5	BOLT, U GALV M16 x 89 x 102mm	D-DT-6098	ea	5	10
6	BRACKET, PHASE COLOUR DISC	D-DT-6114	ea	3	6
7	BOLT, HX GALV M16x40mm W/HXNUT D6097	D-DT-6097	ea	3	6
8	PLATE,PH MKR RED W/BLK R (REFER TO D-DT-5047 S 3&5)	D-DT-6114	ea	1	2
9	PLATE,PH MKR WHT W/BLK W (REFER TO D-DT-5047 S 3&5)	D-DT-6114	ea	1	2
10	PLATE,PH MKR BLU W/BLK B (REFER TO D-DT-5047 S 3&5)	D-DT-6114	ea	1	2
11	CLEVIS-BALL 16mm IEC 120kN	D-DT-6059	ea	3	6
12	INSUL,L/ROD 132kV 120kN B/S 31 COMP	D-DT-7014	ea	3	6
13	CLAMP, PISTOL 4B 20mm-30mm	D-DT-6042	ea	3	6
14	SOCKET-TONGUE 16mm 120kN	D-DT-6061	ea	3	6
15	CLAMP, REV PIST 3B 6.0 TO 16.0	D-DT-7022	ea	2	4
16	CLAMP S/WIRE	D-DT-7003	ea	2	4
17	COND, AAC CENTIPEDE 26.46D UNGRS	D-DT-3136	m	75	150
18	COND, ACSR HARE 14.16D UNGRS	D-DT-3136s2	m	50	100

**2 X ISOLATOR 132kV 2500A 40kA CENT (D-DT- 4622s5)**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY	TOT
1	ISO,EL:132 KV;2500 A;40 KA;HAND;DES	D-DT-6302	ea	1	2
2	ISOLATOR STD L/RH E/S - 132kV MANUAL LATTICE SUPPORT	D-DT-5202s2E	ea	1	2
3	ISOL. 132 KV SUPPORT FOUNDATION	D-DT 5202s1A	ea	1	2
4	S.ARR.132KV MOUNTING BRACKET	D-DT-5219s4	ea	1	3
5	S/ARR S/CL 132kV MCOV 84kV	D-DT-6210	ea	3	6
6	CLAMP: EPC-B; COMP/PALM 45DG;26.5 MM	D-DT-6018s2	ea	6	12
7	CLAMP, T/COMP 26.5mm-26.5mm 0DG ETC-C	D-DT-6010	ea	3	6
8	CLAMP: EX-B; BOLT/BOLT; STEM 26 COND 26.5	D-DT-6002s2	ea	6	12
9	CLAMP, PEG AL CENT 26.5mm EPC - 26	D-DT-6115s1	ea	6	12
10	COND, AAC CENTIPEDE 26.45D UNGRS	D-DT 3136s7	m	24	48
11	JOINT, BALL PORTABLE EARTH 20kA G/S	D-DT-6081s1	ea	6	12
12	PADLOCK, ST OPER MASTER MUNICIPALITY	D-DT-6050s8	ea	2	4
13	BOLT ASSY: FASTENER; M12; LG 65 MM; HEX;8.8	D-DT-6097	ea	24	48
14	BRACKET, PHASE COLOUR DISC	D-DT-6114	ea	2	4
15	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097	ea	2	4
16	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047	ea	2	4

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

<b>2 X BREAKER 132kV 2500A 40kA CENT (D-DT-4618s1)</b>						
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>DRW. NO</b>		<b>UNIT</b>	<b>QTY</b>	<b>TOT</b>
1	BKR 132kV 3150A 40kA 3P 31mm	D-DT-6250		ea	1	2
2	132kV CIRCUIT BREAKER FOUNDATION	D-DT-5200s1A		ea	1	2
3	CIRCUIT BREAKER 66/132kV SUPPORT	D-DT-5200s2A		ea	1	2
4	CLAMP: EPC-A; COMP/PALM ODG;26.5 MM	D-DT-6018s2		ea	6	12
5	BOLT, HX GALV M16x75mm W/HXNUT	D-DT-6097		ea	8	16
6	BOLT ASSY:FASTENER;M12;LG 65 MM;HEX;8.8	D-DT-6097		ea	24	48
7	COND, AAC CENTIPEDE 26.46D UNGRS	D-DT-3136		m	15	30
8	PIPE, PVC CABLE 110NB RIGID	D-DT-8018s1		ea	0.5	1
9	BRACKET, PHASE COLOUR DISC	D-DT-6114		ea	1	2
10	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097		ea	1	2
11	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047		ea	1	2
<b>2 X CURRENT TRANSFORMER 132kV 2P2M2BZ CENT (D-DT-4631s1)</b>						
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>DRW. NO</b>		<b>UNIT</b>	<b>QTY</b>	<b>TOT</b>
1	CT 132kV 2500A 40kA 2P2M2B (1600)	D-DT-6190		ea	3	6
2	MED. EQUIP. SUPPORT CAP 132kV	D-DT-5206s2H		ea	3	6
3	MED. EQUIP. SUPPORT STEELWORK DETAIL	D-DT-5206s2C		ea	3	6
4	MED. EQUIP. SUPPORT FOUNDATION	D-DT-5206s1A		ea	3	6
5	CLAMP: EXC-B; B/COMP; STEM38 COND26.5	D-DT-6006s2		ea	6	12
6	BOLT, HX GALV M16x75mm W/Hx NUT	D-DT-6097s1		ea	12	24
7	WASHER, RD FLAT M16 29.6D 18.25D HL	D-DT-3014s2		ea	12	24
8	WASHER, TAPER GALV M16 38SQ 18.0D HL	D-DT-3014s7		ea	12	24
9	COND-AAC CENTIPEDE 26.45D UNGRS	D-DT-3136s7		m	11	22
10	BRACKET-CONTROL CABLE	D-DT-6065s1		ea	12	24
11	BRACKET, PHASE COLOUR DISC	D-DT-6114		ea	1	2
12	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097		ea	1	2
13	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047		ea	1	2
<b>2 X 132kV VOLTAGE TRANSFORMER CENTIPEDE (D-DT-4636s1)</b>						
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>DRW. NO</b>		<b>UNIT</b>	<b>QTY</b>	<b>TOT</b>
1	VT 1PH 123kV/110V 100/50VA 31	D-DT-6171		ea	3	6
2	MED. EQUIP – CAP M1 CHANNEL SUPPORT	D-DT-5206s2H		ea	3	6
3	MED. EQUIP – 2,5m LATTICE SUPPORT	D-DT-5206s2C		ea	3	6
4	MED. EQUIP – LATTICE SUPPORT FOUNDATION	D-DT-5206s1A		ea	3	6
5	CLAMP:EX-B;BOLT/BOLT; STEM 26 COND 26.5	D-DT-6002s1		ea	3	6
6	COND, AAC CENTIPEDE 26.46D UNGRS	D-DT-3136s7		m	9	18
7	BOLT HX GALV M16x75mm W/Hx NUT	D-DT-6097		ea	12	24
8	WASHER, RD FLAT M16 29.6D 18.25DIA HL	D-DT-3014s2		ea	12	24
9	WASHER, TAPER GALV M16 38SQ 18.25DIA HL	D-DT-3014s7		ea	12	24
10	BRACKET-CONTROL CABLE	D-DT-6065		ea	12	24
11	BRACKET, PHASE COLOUR DISC	D-DT-6114		ea	1	2
12	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097		ea	1	2
13	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047		ea	1	2

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

<b>2 X TRANSFORMER 132/11 kV 20MVA CENT TO TWIN BULL (D-DT- 4606)</b>						
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>DRW. NO</b>	<b>UNIT</b>	<b>QTY</b>	<b>TOT</b>	
1	TRFR 20MVA 132/11kV OLTC YNd1 31	D-DT-6120	ea	1	1	
2	STANDARD TRANSFORMER PLINTH 20 - 40MVA (LEFT ENTRY)	D-DT-5232 s 3B	ea	1	1	
3	STANDARD TRANSFORMER PLINTH 20 - 40MVA (RIGHT ENTRY)	D-DT-5232 s 3C	ea	1	1	
4	S/ARR S/CL 132kV MCOV 84kV	D-DT-6210	ea	3	6	
5	S/ARR S/CL 11kV MCOV 12kV 31mm	D-DT-6216	ea	3	6	
6	COND, AAC BULL 38.25D INSU UNGRS	D-DT-3136	m	15	30	
7	COND, AAC CENTIPEDE 26.46D UNGRS	D-DT-3136	m	10	20	
8	COND, AAC HORNET 16.25D INSU UNGRS	D-DT-3136	m	3	6	
9	CLAMP, CROSS 26.5mm - 26mm EX-B	D-DT-6002	ea	7	14	
10	CLAMP:EXC-L;BOLT/COMP 45 DEG;26 MM;26.5	D-DT-6006	ea	3	6	
11	CLAMP, CROSS 16.3mm - 38mm EX-C	D-DT-6002	ea	3	6	
12	CLAMP:EYC-D;2 X 38.3 COMP/38 BOLT 45 DEG	D-DT-6006	ea	3	6	
13	LUG, AL HORNET 1B M12 0DEG I/C	D-DT-3074	ea	3	6	
14	COVER:INSULATION;DIA 140 X LG 250 MM	D-DT-6370	ea	3	6	
15	COMPOUND ELECT INSLTG:PUTTY;BLACK	D-DT-6292	ea	0.25	0.5	
16	TAPE, ELECT EPR 18mm W x 0.76mm THK	D-DT-6292	ea	3	6	
17	COVER:INSULATION;DIA 330 X LG 290 MM	D-DT-6370	ea	3	6	
18	S/ARR S/CL 66kV MCOV 48kV	D-DT-6212	ea	1	2	
19	CLAMP:EXP-A;BOLTED STUD 4H PALM;26 MM	D-DT-6027	ea	2	4	
20	STRIP:FLAT;WD 50 MM;THK 3.15 MM;CU	D-DT-6045	m	4	8	
21	BOLT ASSY:FASTENER;M12;LG 65 MM;HEX;8.8	D-DT-6097	ea	4	8	
22	WASHER:SQ FLAT M12 50SQ 14.25D HL D3014	D-DT-3014	ea	4	8	
23	ELECTRICAL EQUIPMENT LABEL	D-DT-5047	ea	2	4	
24	SPACER COND 38.3mm-150mm CRS S2	D-DT-6087	ea	3	6	
<b>2 X NEC/NER/AUX TRFR 11kV 360A CABLE (XLPE) (D-DT- 4612s2)</b>						
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>DRW. NO</b>	<b>UNIT</b>	<b>QTY</b>	<b>TOT</b>	
1	NEC/NER/AUX TFR 11kV 360A 31mm	D-DT-6140	ea	1	2	
2	NEC/NER/AUX TRFR 6.6/22/33kV FOUNDATION	D-DT-5207s1A	ea	1	2	
3	CABLE 3C 11kV 95mm SQ.CU EUX3PCQ	D-DT-8001	m	20	40	
4	TERM KIT 3C 11kV 50-95 SQ.0D XLPE	D-DT-8006	ea	2	4	
5	LUG CRIMP 95 SQ.CU M12 FIXING HOLE XLPE	D-DT-3102	ea	6	12	
6	CLAMP, STUD PALM BOLT 38.3mm EXP-B	D-DT-6027	ea	3	6	
7	CLAMP, CABLE 50-75 DIA POLYPROP BLK	D-DT-8019	ea	1	2	
8	NECR'T-AUX.TRFR-1.5M LATTICE SUPPORT	D-DT-5207s2A	ea	1	2	
9	BRACKET, PHASE COLOUR DISC	D-DT-6114	ea	1	2	
10	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097	ea	1	2	
11	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047	ea	1	2	
<b>2 X 11kV CABLE END SUPPORT (D-DT- 4646s2)</b>						
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>DRW. NO</b>	<b>UNIT</b>	<b>QTY</b>	<b>TOT</b>	
1	INSUL POST STN 66kV	D-DT-6232	ea	6	12	
2	11/22kV CABLE END SUPPORT	D-DT-5213s2A	ea	1	2	
3	11/22kV CBLE END SUPPORT FOUNDATION	D-DT-5213s1A	ea	1	2	
4	COND, AAC BULL 38.25D INSU UNGRS	D-DT-3136s8	m	24	48	
5	CLAMP, TUBE:ETP-TE-IL2-R;120/2X38.3;0D	D-DT-6090	ea	3	6	
6	CLAMP, TUB BUS/PALM T/OFF TBPT120	D-DT-6117	ea	12	24	
7	CLAMP, TUBE: ESC-PI-F-F;120/127; FIXED	D-DT-6086	ea	3	6	
8	CLAMP, TUBE: ECC-PI-S-F;120/120/127; SLIDE	D-DT-6086	ea	3	6	
9	TUBE AL 120MM OD X 4mm W THK 12M L	D-DT-6000	ea	1	2	
10	END CAP, TBEC 120 PLAIN NO F/CLAMP	D-DT-6040	ea	6	12	
11	CLAMP, CABLE DBL 50-75 P/PROP BLK	D-DT-8019	ea	12	24	
12	BRACKET, PHASE COLOUR DISC	D-DT-6114	ea	1	2	
13	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097	ea	1	2	
14	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047	ea	1	2	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**1.2. GALVANISED/STAINLESS STEEL FIRE BARRIER (D-DT-5218)****1 x GALVANISED/STAINLESS STEEL FIRE BARRIER (D-DT-5218)**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY	TOT
1	STEEL FIRE BARRIER LATTICE SUPPORT FOUNDATION	D-DT- 5218s1A	ea	3	3
2	STEEL FIRE BARRIER - 6M LATTICE SUPPORT & IRB SHEETING STEELWORK	D-DT- 5218s2A	ea	3	3

**1.3. SUBSTATION LIGHTING AND LIGHTNING (D-DT-4799&4217)****3 x SUBSTATION LIGHTING MAST 21m**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY	TOT
1	LIGHTING-LIGHTNING MAST – 21m TUBULAR SUPPORT	D-DT-5217s2C	ea	1	3
2	LAMPHOLDER INC FITTING 400/250W HPS	D-DT-6104	ea	1	8
3	LAMP, FLOODLIGHT 400W/230V HPS	D-DT-6105	ea	1	8
4	STANDARD LIGHTING/LIGHTNING MAST FOR SUBSTATIONS (21M) CABLE BLOCK WIRING	D-DT-5217s5	ea	1	3
5	LIGHTING-LIGHTNING MAST – 21m TUBULAR SUPPORT FOUNDATION	D-DT-5217s1C	ea	1	3
6	CABLE 1kV 4C 4.0SQ CU BVX4ECV	D-DT-3128	m	200	200
7	PVC PIPES, 50MM DIAMETER	D-DT-5217	m	3	9
8	CABLE GLAND ADJUST No. 1	D-DT-3070	ea	5	6

**1.4. EARTHING MATERIALS FOR EQUIPMENT AND SITE (D-DT-5240)**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY	TOT
1	BAR Cu RD 10mm ANNEALED (1kg = 1.41m)	D-DT-6044	m	2300	2300
2	Strip Cu FL 3.0x50mm ANNEALED(1kg = 0.723m)	D-DT-6045	m	450	450
3	GALV STEEL STRAPS 80mm x 6mm x 1.2m	D-DT-5240	ea	8	8

**1.5. MISCELLANEOUS ITEMS****LABELS, SIGNS AND LOCKS**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY	TOT
1	SIGN, ABC - UNAUTHORISED ENTRY	D-DT-6072	ea	15	15
2	SIGN, DE - FIRE/FIRST AID	D-DT-6073	ea	4	4
3	SIGN, F - PROHIBITIVE (VARIOUS)	D-DT-6074	ea	4	4
4	SIGN, G - HARD HAT AREA	D-DT-6075	ea	4	4
5	SIGN, DCSS 1 – BATTERY ROOM	D-DT-6112	ea	1	1
6	SIGN, DCSS 2 – BATTERY CABINET	D-DT-6112	ea	1	1
7	SIGN, DCSS 3 – COMBINATED BATTERY ROOM	D-DT-6112	ea	1	1
8	SIGN, GA 20 – INFORM. – EMER. SHOWER	D-DT-6113	ea	1	1
9	SIGN, GA 19 – INFORMATIVE - EYE WASH	D-DT-6113	ea	1	1
10	SIGN, PV 5 – DRINKING WATER PROHIB.	D-DT-6113	ea	1	1
11	GALVANISED ANGLE IRON FOR FIXING LABELS TO PALLISADES	D-DT-5237s14	ea	21	21
12	PLATE, PH MKR BLU W/BLK B	D-DT-6114	ea	2	2
13	PLATE, PH MKR RED W/BLK R	D-DT-6114	ea	2	2
14	PLATE, PH MKR WHITE W/BLK W	D-DT-6114	ea	2	2
15	BRACKET, PHASE COLOUR DISK	D-DT-6114	ea	6	6

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**2.1. Long lead Material: Bill of Material**

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY
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Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

1	INSUL,L/ROD 132kV 120kN B/S 31 COMP	D-DT-7014		ea	6
2	ISO,EL:132 KV;2500 A;40 KA;HAND;DES	D-DT-6302		ea	2
3	S/ARR S/CL 132kV MCOV 84kV	D-DT-6210		ea	12
4	BKR 132kV 3150A 40kA 3P 31mm	D-DT-6250		ea	2
5	CT 132kV 2500A 40kA 2P2M2B (1600)	D-DT-6190		ea	6
6	VT 1PH 123kV/110V 100/50VA 31	D-DT-6171		ea	6
7	TRFR 20MVA 132/11kV OLTC YNd1 31	D-DT-6120		ea	0
8	S/ARR S/CL 11kV MCOV 12kV 31mm	D-DT-6216		ea	6
9	S/ARR S/CL 66kV MCOV 48kV	D-DT-6212		ea	2
10	NEC/NER/AUX TFR 11kV 360A 31mm	D-DT-6140		ea	2
11	INSUL POST STN 66kV	D-DT-6232		ea	12

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## 2.2. Clamps Ordering Bill Of Materials

ITEM	DESCRIPTION	DRW. NO		UNIT	QTY
1	CLAMP, PISTOL 4B 20mm-30mm	D-DT-6042		ea	6
2	CLAMP, REV PIST 3B 6.0 TO 16.0	D-DT-7022		ea	4
3	CLAMP S/WIRE	D-DT-7003		ea	4
4	CLAMP: EPC-B; COMP/PALM 45DG;26.5 MM	D-DT-6018s2		ea	12
5	CLAMP, T/COMP 26.5mm-26.5mm 0DG ETC-C	D-DT-6010		ea	6
6	CLAMP: EX-B; BOLT/BOLT; STEM 26 COND 26.5	D-DT-6002s2		ea	32
7	CLAMP, PEG AL CENT 26.5mm EPC - 26	D-DT-6115s1		ea	12
8	CLAMP: EPC-A; COMP/PALM ODG;26.5 MM	D-DT-6018s2		ea	12
9	CLAMP: EXC-B; B/COMP; STEM38 COND26.5	D-DT-6006s2		ea	12
10	CLAMP:EXC-L;BOLT/COMP 45 DEG;26 MM;26.5	D-DT-6006		ea	6
11	CLAMP, CROSS 16.3mm - 38mm EX-C	D-DT-6002		ea	6
12	CLAMP:EYC-D;2 X 38.3 COMP/38 BOLT 45 DEG	D-DT-6006		ea	6
13	CLAMP:EXP-A;BOLTED STUD 4H PALM;26 MM	D-DT-6027		ea	4
14	CLAMP, STUD PALM BOLT 38.3mm EXP-B	D-DT-6027		ea	6
15	CLAMP, CABLE 50-75 DIA POLYPROP BLK	D-DT-8019		ea	2
16	CLAMP, TUBE:ETP-TE-IL2-R;120/2X38.3;0D	D-DT-6090		ea	6
17	CLAMP, TUB BUS/PALM T/OFF TBPT120	D-DT-6117		ea	24
18	CLAMP, TUBE: ESC-PI-F-F;120/127; FIXED	D-DT-6086		ea	6
19	CLAMP, TUBE: ECC-PI-S-F;120/120/127; SLIDE	D-DT-6086		ea	6
20	END CAP, TBEC 120 PLAIN NO F/CLAMP	D-DT-6040		ea	12
21	CLAMP, CABLE DBL 50-75 P/PROP BLK	D-DT-8019		ea	24

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## 2.3. Miscellaneous Ordering Bill of Materials

ITEM	DESCRIPTION	DRW. NO	UNIT	QTY
1	BOLT, U GALV M16 x 89 x 102mm	D-DT-6098	ea	10
2	BRACKET, PHASE COLOUR DISC	D-DT-6114	ea	28
3	CLEVIS-BALL 16mm IEC 120kN	D-DT-6059	ea	6
4	SOCKET-TONGUE 16mm 120kN	D-DT-6061	ea	6
5	COND, AAC CENTIPEDE 26.46D UNGRS	D-DT-3136	m	288
6	COND, ACSR HARE 14.16D UNGRS	D-DT-3136s2	m	100
7	JOINT, BALL PORTABLE EARTH 20kA G/S	D-DT-6081s1	ea	12
8	PADLOCK, ST OPER MASTER MUNICIPALITY	D-DT-6050s8	ea	4
9	BOLT ASSY: FASTENER; M12; LG 65 MM; HEX;8.8	D-DT-6097	ea	104
10	ELECTRICAL EQUIPMENT LABEL (LABEL 3 or 4)	D-DT-5047	ea	18
11	BOLT, HX GALV M16x75mm W/HXNUT	D-DT-6097	ea	64
12	PIPE, PVC CABLE 110NB RIGID	D-DT-8018s1	ea	1
13	WASHER, RD FLAT M16 29.6D 18.25D HL	D-DT-3014s2	ea	48
14	WASHER, TAPER GALV M16 38SQ 18.0D HL	D-DT-3014s7	ea	48
15	BRACKET-CONTROL CABLE	D-DT-6065s1	ea	48
16	COND, AAC BULL 38.25D INSU UNGRS	D-DT-3136	m	78
17	COND, AAC HORNET 16.25D INSU UNGRS	D-DT-3136	m	6
18	LUG, AL HORNET 1B M12 0DEG I/C	D-DT-3074	ea	6
19	COVER:INSULATION;DIA 140 X LG 250 MM	D-DT-6370	ea	6
20	COMPOUND ELECT INSLTG:PUTTY;BLACK	D-DT-6292	ea	0.5
21	TAPE, ELECT EPR 18mm W x 0.76mm THK	D-DT-6292	ea	6
22	COVER:INSULATION;DIA 330 X LG 290 MM	D-DT-6370	ea	6
23	STRIP:FLAT;WD 50 MM;THK 3.15 MM;CU	D-DT-6045	m	8
24	WASHER:SQ FLAT M12 50SQ 14.25D HL D3014	D-DT-3014	ea	8
25	SPACER COND 38.3mm-150mm CRS S2	D-DT-6087	ea	6
26	CABLE 3C 11kV 95mm SQ.CU EUX3PCQ	D-DT-8001	m	40
27	TERM KIT 3C 11kV 50-95 SQ.0D XLPE	D-DT-8006	ea	4
28	LUG CRIMP 95 SQ.CU M12 FIXING HOLE XLPE	D-DT-3102	ea	12
29	TUBE AL 120MM OD X 4mm W THK 12M L	D-DT-6000	ea	2
30	BOLT, HX GALV M16x40mm W/HXNUT	D-DT-6097	ea	20
31	LAMPHOLDER INC FITTING 400/250W HPS	D-DT-6104	ea	8
32	LAMP, FLOODLIGHT 400W/230V HPS	D-DT-6105	ea	8
33	STANDARD LIGHTING/LIGHTNING MAST FOR SUBSTATIONS (21M) CABLE BLOCK WIRING	D-DT-5217s5	ea	3
34	CABLE 1kV 4C 4.0SQ CU BVX4ECV	D-DT-3128	m	200
35	PVC PIPES, 50MM DIAMETER	D-DT-5217	m	9
36	CABLE GLAND ADJUST No. 1	D-DT-3070	ea	6
37	BAR Cu RD 10mm ANNEALED (1kg = 1.41m)	D-DT-6044	m	2300
38	Strip Cu FL 3.0x50mm ANNEALED(1kg = 0.723m)	D-DT-6045	m	450
39	GALV STEEL STRAPS 80mm x 6mm x 1.2m	D-DT-5240	ea	8
40	SIGN, ABC - UNAUTHORISED ENTRY	D-DT-6072	ea	15
41	SIGN, DE - FIRE/FIRST AID	D-DT-6073	ea	4
42	SIGN, F - PROHIBITIVE (VARIOUS)	D-DT-6074	ea	4
43	SIGN, G - HARD HAT AREA	D-DT-6075	ea	4



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

44	SIGN, DCSS 1 – BATTERY ROOM	D-DT-6112		ea	1
45	SIGN, DCSS 2 – BATTERY CABINET	D-DT-6112		ea	1
46	SIGN, DCSS 3 – COMBINATED BATTERY ROOM	D-DT-6112		ea	1
47	SIGN, GA 20 – INFORM. – EMER. SHOWER	D-DT-6113		ea	1
48	SIGN, GA 19 – INFORMATIVE - EYE WASH	D-DT-6113		ea	1
49	SIGN, PV 5 – DRINKING WATER PROHIB.	D-DT-6113		ea	1
50	PLATE, PH MKR BLU W/BLK B	D-DT-6114		ea	4
51	PLATE, PH MKR RED W/BLK R	D-DT-6114		ea	4
52	PLATE, PH MKR WHITE W/BLK W	D-DT-6114		ea	4
53	Cable 630 XLPE CU			m	360

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## 2.4. FOUNDATION ORDERING OF MATERIAL

ITEM	DESCRIPTION	DRW. NO		UNIT	QTY
1	COLUMN 132kV LATTICE SUPPORT FOUNDATION	D-DT-5252s1A		ea	4
2	ISOL. 132 KV SUPPORT FOUNDATION	D-DT 5202s1A		ea	2
3	132kV CIRCUIT BREAKER FOUNDATION	D-DT-5200s1A		ea	2
4	MED. EQUIP – LATTICE SUPPORT FOUNDATION	D-DT-5206s1A		ea	12
5	NEC/NER/AUX TRFR 6.6/22/33kV FOUNDATION	D-DT-5207s1A		ea	2
6	11/22kV CBLE END SUPPORT FOUNDATION	D-DT-5213s1A		ea	2
7	STEEL FIRE BARRIER LATTICE SUPPORT FOUNDATION	D-DT- 5218s1A		ea	3
8	LIGHTING-LIGHTNING MAST – 21m TUBULAR SUPPORT FOUNDATION	D-DT-5217s1C		ea	3
9	STANDARD TRANSFORMER PLINTH 20 - 40MVA (LEFT ENTRY)	D-DT-5232 s 3B		ea	1
10	STANDARD TRANSFORMER PLINTH 20 - 40MVA (RIGHT ENTRY)	D-DT-5232 s 3C		ea	1

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## 2.5. STANDARD STEEL ORDERING SCHEDULE

ITEM	DESCRIPTION	QTY	DRW NO	PER UNIT QUANTITY (kg)		TOTAL QUANTITY (kg)	
				Structural Bulk steel	Steel Bolts	Structural Bulk steel	Steel Bolts
1	EARTHWIRE SUPPORT - 132/EW LATTICE STEEL STEELWORK	4	D-DT-5252s2E	241.00	25.30	964.00	101.2
2	NECR'T-AUX.TRFR-1.5M LATTICE SUPPORT	2	D-DT-5207s2A	241.75	5.26	483.50	10.52
3	11/22kV CABLE END SUPPORT	2	D-DT-5213s2A	379.43	14.93	758.86	29.86
4	STEEL FIRE BARRIER - 6M LATTICE SUPPORT & IRB SHEETING STEELWORK	3	D-DT- 5218s2A	423.59	10.71	1270.77	32.13
6	LIGHTING-LIGHTNING MAST – 21m TUBULAR SUPPORT	3	D-DT-5217s2C	773.89	2.08	2321.67	6.24
7	COLUMN - 132/C LATTICE STEEL STEELWORK	4	D-DT-5252s2A	1149.82	41.99	4599.28	167.96
8	BEAM - 132/39.37/1 LATTICE STEEL STEELWORK	2	D-DT-5252s2G	796.12	39.53	1592.24	79.06
9	GALVANISED ANGLE IRON FOR FIXING LABELS TO PALLISADES	21	D-DT-5273	-	-	-	-
10	S.ARR.132KV MOUNTING BRACKET	2	D-DT-5219s4	207.95	4.22	415.90	8.44
11	ISOLATOR STD L/RH E/S - 132kV MANUAL LATTICE SUPPORT	2	D-DT-5202s2E	596.91	15.05	1193.82	30.10
12	CIRCUIT BREAKER 66/132kV SUPPORT	2	D-DT-5200s2A	242.39	-	484.78	-
13	MED. EQUIP. SUPPORT CAP 132kV	12	D-DT-5206s2H	54.41	1.94	652.92	23.28
14	MED. EQUIP – 2,5m LATTICE SUPPORT	12	D-DT-5206s2C	124.57	3.13	1494.84	37.56
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Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

### 3. EQUIPMENT LABELS ORDERING SCHEDULE

#### Description of Labels:

Labels, legend – label and wording, are to be manufactured to the dimensions detailed on drawing D-DT-5273.

All labels shall be as per 240-75660336 and 240-120804300 Eskom Standards.

#### Finish and colours:

All labels shall be as per 240-75660336 and 240-120804300 Eskom Standards

ITEM	LEGEND (LAYOUT AND WORDING)	QTY	REF AS PER D-DT-5073
1	BELA BELA 132/11 kV SUBSTATION	1	Label 1
2	BELA BELA 132/11 kV CONTROL ROOM	1	Label 1
3	BELA BELA 132/11kV BATTERY ROOM	1	Label 1
4	BELA BELA 11kV SWITCHING ROOM	1	Label 1
5	TRFR 1 132 kV LINE ISOL	1	Label 3
6	TRFR 2 132 kV LINE ISOL	1	Label 3
7	TRFR 1 132 kV BKR	1	Label 3
8	TRFR 2 132 kV BKR	1	Label 3
9	TRFR 1 132 kV CT	1	Label 3
10	TRFR 1 132 kV CT JB	1	Label 3
11	TRFR 2 132 kV CT	1	Label 3
12	TRFR 2 132 kV CT JB	1	Label 3
13	TRFR 1 132 kV VT	1	Label 3
14	TRFR 1 132 kV VT JB	1	Label 3
15	TRFR 2 132 kV VT	1	Label 3
16	TRFR 2 132 kV VT JB	1	Label 3

17	TRFR 1 132/11 kV 20 MVA	2	Label 4
18	TRFR 2 132/11 kV 20 MVA	2	Label 4
19	TRFR 1 11 kV NECRT	1	Label 3
20	TRFR 2 11 kV NECRT	1	Label 3
21	TRFR 1 11 kV CABLE END SUPPORT	1	Label 3
22	TRFR 2 11 kV CABLE END SUPPORT	1	Label 3
23	R	4	Label 5
24	W	4	Label 5
25	B	4	Label 5
26	GATE 1	1	Label 4
27	GATE 2	1	Label 4
28	GATE 3	1	Label 4
29	GATE 4	1	Label 4
30	GATE 5	1	Label 4
31	GATE 6	1	Label 4
32	GATE 7	1	Label 4
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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

## CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION (PHASE 1)

<b>C3 SCOPE OF WORK</b>
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- C3.1 Description of the Works
- C3.2 Engineering
- C3.3 Procurement
- C3.4 Construction
- C3.5 Management
- C3.6 Geotechnical Report
- C3.7 Drainage Report

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

**DESCRIPTION OF WORKS**

**C3.1 General Description of the project.**

The project entails Phase 1 of the construction of Bela-Bela 132/11kV substation in the Bela-Bela Local municipality. The scope of work includes, but not limited to:

<p><b>C 3.1.1 SCOPE OF WORK</b></p> <p><b>Substation Power Plant:</b> (Civil, Steel, Facilities &amp; Electrical)</p> <p><b>132kV Line or Transformer Bay; Columns &amp; Beam Terminal; Single Tube Busbar (D-DT-4301 or 4313)</b></p> <ul style="list-style-type: none"> <li>• Install complete 2x132/11kV, 20MVA Transformer Core (D-DT-4606s1)</li> </ul> <p><b>Yard and General</b></p> <ul style="list-style-type: none"> <li>• Install Steel Fire Barrier (D-DT-5218)</li> <li>• Construct Oil Dam with Oil Trap (D-DT-5234s1A)</li> <li>• Construct 50m Concrete Runway</li> <li>• Install Substation Earth Grid (D-DT-5240)</li> <li>• Instal Kerbing around the Substation Fence (D-DT-5254)</li> <li>• Install Yard Stone</li> <li>• Construct Oil drainage Concrete Pipes</li> <li>• Dismantle all None-standard Foundations, Plinths, Supports and equipment</li> <li>• Dismantle boundary fence where fence extension will take place</li> </ul> <p><b>Testing and Commissioning</b></p> <ul style="list-style-type: none"> <li>• Supply the SF6 gas for 132kV Breakers, conduct speed test and contact resistance</li> <li>• Isolator tests - Calibration and Alignment Test</li> <li>• Current Transformer tests – Tan Delta Test</li> <li>• Voltage Transformer tests – Tan Delta Test</li> <li>• Transformer - electrical tests</li> <li>• Combined NEC/NER/AUX Transformer - electrical tests</li> <li>• Transformer oil tests – Two (2)</li> <li>• Combined NEC/NER/AUX Transformer oil tests – Two (2)</li> <li>• Filtering of transformer and NECRT oil if test results do not comply, i.e. Moisture, Acidity, Electric Strength</li> <li>• Commission all newly installed equipment</li> </ul>
<p><b>Substation Control Plant:</b></p> <ul style="list-style-type: none"> <li>• Refer to control plant design</li> </ul>
<p><b>Other: (Miscellaneous)</b></p> <ul style="list-style-type: none"> <li>• Install Labels and Signs</li> <li>• Install Control building Furniture and accessories</li> </ul>
<p><b>Civil Works</b></p> <p>Civil Works Scope:</p> <p>Preparatory Work</p> <p>In order to design the envisaged work a Geotechnical investigation and a detailed Survey needed to be done. These were done and handed to us. The detail survey indicate that the cable trenches were built accurately, but the bases were not. For this reason, the bases are to be discarded, but a final decision will be made once the correct position is determined during the construction phase.</p>

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

**Envisaged Work**

300 mm of the existing gravel must be removed, stock piled and maintained. The in situ material must be ripped, shaped to the correct levels and recompact to 93 % mod AASHTO. The levels and slope are shown on DRG 2416/T/09. The details of the Sub-Soil Drain and the Sump Pumps Manholes are also shown. It is advisable to use solar pumps, but it will be specified by the Electrical Engineer. These will be done firstly to drain the ground water from the site.

**Road Works**

The access road for Eskom was designed for a truck with a wheel base of 15 m and a turning circle of 15 m as shown on DRG 2416/T/051 & 052. As can be seen the limited space restrict the options and a reverse action had to be used. This will only be used when the truck is empty. For small trucks the reverse action will not be needed. The entrance gates will be a 7,5 m sliding gate or it can be split into two gates of 3.75 m. The bridge over the storm water channel will be formed with a 600 x 600 boxed culvert. The layer work is shown on drawing.

**Concrete Bases**

As previously mentioned, the position and sizes of the bases are questionable and will be replaced. A base will only be retained if it conforms in terms of the relevant drawings and specifications. This process will happen when the Contractor is on site. At present it is taken to not conforming. When the survey was super imposed on the drawing, the discrepancy was too big to accept it as correct. The standard details of Eskom were used to draw the bases.

The envisaged work to complete the project is as follows:

1. A detailed survey with a 20 m grid.
2. All existing structures measured.
3. Removal of 300 mm fill material and backfill with G5 gravel as described above.
4. Compact fill material in layers not exceeding 150 mm.
5. Level and slope surface layer to form a slope of 1: 100 slope.
6. Fill 100 mm layer between existing bases.
7. Excavate sub-soil drain trench to a depth of 1,2 m.
8. Install an A4 Geofabric bideem layer in trench for the circumference.
9. Install 110 mm perforated pipe at a slope of 1: 100 in trench.
10. Fill trench with + 6,7 – 26 crushed stone to 300 mm below surface.
11. Fill top 300 mm of trench with G5 gravel.
12. Install 1,0 m diameter manholes.
13. Install sump pump (2 l/s, 5 m head).
14. Install delivery pipe draining into existing storm water channel.
15. Open existing drainage pipes from the platform to the storm water channel.
16. Construct access road and gates

The existing gravel platform has a maximum allowable bearing pressure ranging between 300 and 400 kPa. It is recommended that the ground bearing pressure does not exceed 150 kPa. This the normal bearing capacity for a insitu gravel layer. All base will be checked to comply with this requirement. The attached drawings show the existing and planned services. The new drawing was converted from a converted existing PDF drawing and can only be seen as a planning drawing.

**PROJECT INFORMATION**

**Substation Information:**

Contractor

Witness 1

Witness 2

Employer

Witness 1

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Item	Description
Co-ordinates (Lat.) S/S cent	S 24°53'36.2"
Co-ordinates (Long.) S/S cent	E 28°18'35.7"
Stand size required	55m x 34m
Substation System Voltages	132/11kV
MV Design Philosophy	Cable End support and Indoor Switchgears
Preferred busbar orientation	N/A
Number of HV feeders	1
Number of MV feeders	TBC
Number of Transformers	2
Transformer rating	132/11kV 20MVA
Transformer oil catch pit	Yes
Transformer oil holding dam	Yes
<b>Site Climate Conditions:</b>	
Item	Description
Ambient Temp Max. °C	40.0°C
Ambient Temp Min. °C	-2°C
Lightning Density	7 flashes to ground/km <sup>2</sup> /year
Rain Fall (highest per day)	138mm
Thunder days/year (mean)	66.5
Snow days/year (mean)	0
Max. Wind m/sec	9.5 m/s

**Employer’s Objectives:**

The Employer’s objective is:

- To deliver public infrastructure and services using labour-intensive methods in accordance with EPWP Guidelines;
- To improve the supply of power in Bela-Bela municipality
- To improve quality of life;
- To create entrepreneurial opportunities during the construction phase of the project; and
- To create short-term employment opportunities through the use of Labour-Intensive construction methodologies.

It is a specific goal of this project that the labour component be maximised where it is economically feasible, and that the use of this labour goes hand in hand with on the job training of the labour force. The project is thus process and product orientated, and it is expected that the Contractor will pursue these goals in the execution of the project.

Labour-intensive works comprise the activities described in the labour-intensive specification. Such works shall be constructed using local workers who are temporarily employed in terms of this Specification Data.

**Labour-intensive works.**

Labour-intensive works comprise the activities described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local labour to be temporarily employed in terms of this Scope of Work.

Contractor

Witness 1

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Employer

Witness 1

Witness 2

**C3.1.2 Overview of the works.**

This project entails the construction of Bela-Bela municipality 132/11kv substation. In this densely populated area of Bela-Bela, services are provided by the Bela-Bela Local Municipality to the residents, but they do not have adequate capacity to supply electricity to all existing residential households. The existing switching substations in Bela-Bela are overloaded and don't have sufficient capacity to provide electricity to all existing developments, as well as the new developments in the area. The substation will feed the existing Bela-Bela Town and Township within the Municipality.

**C3.1.3 Extent of Works.**

Bela Bela Local Municipality (BBLM) established the need to build a 2 x 20MVA substation called Bela Bela 132/11kV 2 x 20MVA substation, 132kV Turn in Lines, and integrate the existing MV feeders. The substation is to be supplied from existing 132kV Warmbath MTS – Warmbath Traction 132kV line.

The new substation will also complement the existing MV lines fed from Eskom 132/11kV Substation, hence de-loading the existing MV feeders, which currently peaks above the 17,7 MVA maximum demand during winter peak loads. This will allow for further growth in Bela Bela Local Municipality distribution licensing area. The new Bela Bela Substation will also provide much needed contingency to municipality loads. The previous appointed service provider could not finish the scope, as per the appointment and SLA with Bela Bela Local Municipality on Tender No 9/3/221..

**C3.1.4 Location of the Works.**

Bela Bela Local Municipality is located in the Waterburg District Municipality of Limpopo Province. The substation construction site is situated along the R516 on the following GPS Coordinates 24°53'36.5"S, 28°18'34.9"E. 2.4km from Bela Bela Local Municipality Offices.

**C3.1.5 Access to the Site**

Without limiting any of the Contractor's obligations or responsibilities under this contract, the Contractor will be deemed to have obtained all the necessary information pertaining to and have complied with all the regulations and procedures governing the use of international, national, regional and local facilities such as site access, transport, handling and storage facilities including public and private roads, railways, airports, airways, border crossing and the like for the fulfilment of the contract.

**C3.1.6 Supplying of Materials**

The Contractor shall secure and supply all material required for the contract. The Contractor shall also ensure that no delay is caused due to a shortage of material at any stage and shall secure and order the required materials well in advance.

Contractor

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Employer

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The Contractor shall further check the quality and quantity of that required material before ordering. No claims for payment in excess incorrect material ordered due to this shall be considered.

**C3.1.7 Access and Accommodation of traffic to site**

The Contractor shall be responsible for and obligated under this contract to grant reasonable access to the residents during construction.

Temporary deviations will be made along the portions of the road where the works will be implemented. The deviations will accommodate the traffic off the working areas by way of detours in order to provide access especially to the local destination points. All deviation and detours will be clearly indicated and controlled by way of temporary road signage as well as flagmen however access must be given to the residents.

Where temporary deviations are not possible, access will be provided to local residents during box cutting stage.

**C3.1.8 Temporary Works.**

The temporary works will be identified during construction.

**C3.1.9 General Information.**

**C3.1.9.1 Drawings.**

The reduced drawings that form part of the tender document shall be used for tender purposes only. Further drawings are to be provided on an on-going basis by the Engineer during construction.

Any information in the possession of the Contractor, which the resident engineer requires to complete the as-built drawings, shall be supplied to the resident Engineer before a certificate of completion will be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the Engineer. The Engineer will supply all figured dimensions omitted from the drawings.

**C3.1.9.2 Power, Water Supply and Other Services.**

The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment will be made for the provision of electrical and other services. The cost of providing these services will be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

**C3.1.9.3 Contractor's Camp Site and Security.**

Contractor

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Employer

Witness 1

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The Contractor shall make his own arrangements regarding the establishment of a camp site and housing for his construction personnel and all regulations stipulated by the local authority shall be adhered to. It is anticipated that the Contractor’s choice of a camp site will be influenced by the availability of telephone and electrical connections as well as the supply of potable water.

Provision is made in these specifications for the erection of a security fence around the site offices. The Contractor shall be responsible for the security of his personnel and constructional plant on and around the site of the works and for the security of his camp, and the Employer will consider no claims in this regard.

**C3.1.9.4 Additional Requirements for Construction Activities:**

C3.1.9.4.1 The Contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.

C3.1.9.4.2 The Contractor shall submit proposals in connection with directional signs to the Engineer for approval.

**C3.1.9.5 Programme Requirements for Construction Activities**

The Contractor shall programme his activities to be suitable in terms of his resources to complete the contract inside the stipulated time period.

**C3.1.9.6 Construction in Confined Areas**

It may be necessary for the Contractor to work in confined areas. In certain areas the width of the fill material and pavement layers may reduce to zero and the working space may be confined. The method of construction in these confined areas depends on the Contractor’s construction plant. However, the Contractor must note that measurement and payment will be in accordance with the specified cross-sections and dimensions, irrespective of the method used to achieve these cross-sections and dimensions, and that the rates and amounts tendered will be deemed to include full compensation for any special equipment or construction methods or for any difficulty encountered in working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for payment be considered on account of these difficulties.

**C3.1.10 Labour Regulations**

**A27 Payment for the labour-intensive component of the works.**

Payment for works identified in clause 3.1.3 “the Extent of the Project” in the Project Specifications as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

Contractor

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**A28 Applicable labour laws.**

The Ministerial Determination for Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

**A29 Introduction.**

This document contains the standard terms and conditions for workers employed in elementary occupations on a Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP.

A29.2 In this document –

- (a) “department” means any department of the State, implementing agent or Contractor;
- (b) “Employer” means any department, implementing agency or Contractor that hires workers to work in elementary occupations on a EPWP;
- (c) “worker” means any person working in an elementary occupation on a EPWP;
- (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) “task” means a fixed quantity of work;
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed.
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

**A30 Terms of Work.**

A30.1 Workers on an EPWP are employed on a temporary basis.

A30.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a EPWP.

A30.2 Employment on a EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

**A31 Normal Hours of Work.**

A31.1 An Employer may not set tasks or hours of work that require a worker to work–

- (a) more than forty hours in any week
- (b) on more than five days in any week; and
- (c) for more than eight hours on any day.

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A31.2 An Employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

A31.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

**A32 Meal Breaks.**

A32.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

A32.2 An Employer and worker may agree on longer meal breaks.

A32.3 A worker may not work during a meal break. However, an Employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An Employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

A32.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

**A33 Special Conditions for Security Guards.**

A33.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

A33.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

**A34 Daily Rest Period.**

Every worker is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

**A35 Weekly Rest Period.**

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work (“emergency work”).

**A36 Work on Sundays and Public Holidays**

A36.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

A36.2 Work on Sundays is paid at the ordinary rate of pay.

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Witness 1

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- A36.3 A task-rated worker who works on a public holiday must be paid –  
(a) the worker’s daily task rate, if the worker works for less than four hours;  
(b) double the worker’s daily task rate, if the worker works for more than four hours.
- A36.4 A time-rated worker who works on a public holiday must be paid –  
(a) the worker’s daily rate of pay, if the worker works for less than four hours on the public holiday;  
(b) double the worker’s daily rate of pay, if the worker works for more than four hours on the public holiday.
- A37 Sick Leave.**
- A37.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.
- A37.2 A worker who is unable to work on account of illness or injury is entitled to claim one day’s paid sick leave for every full month that the worker has worked in terms of a contract.
- A37.3 A worker may accumulate a maximum of twelve days’ sick leave in a year.
- A37.4 Accumulated sick-leave may not be transferred from one contract to another contract.
- A37.5 An Employer must pay a task-rated worker the worker’s daily task rate for a day’s sick leave.
- A37.6 An Employer must pay a time-rated worker the worker’s daily rate of pay for a day’s sick leave.
- A37.7 An Employer must pay a worker sick pay on the worker’s usual payday.
- A37.8 Before paying sick-pay, an Employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –  
(a) absent from work for more than two consecutive days; or  
(b) absent from work on more than two occasions in any eight-week period.
- A37.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- A37.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

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**A38 Maternity Leave.**

- A38.1 A worker may take up to four consecutive months’ unpaid maternity leave.
- A38.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
- A38.3 A worker must give her Employer reasonable notice of when she will start maternity leave and when she will return to work.
- A38.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- A38.5 A worker may begin maternity leave –
  - (a) four weeks before the expected date of birth; or
  - (b) on an earlier date –
    - (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
    - (ii) if agreed to between Employer and worker; or
  - (c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- A38.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
- A38.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

**A39 Family responsibility leave.**

- A39.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -
  - (a) when the employee’s child is born;
  - (b) when the employee’s child is sick;
  - (c) in the event of a death of –
    - (i) the employee’s spouse or life partner;
    - (ii) the employee’s parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

**A40 Statement of Conditions.**

- A40.1 An Employer must give a worker a statement containing the following details at the start of employment –
  - (a) the Employer’s name and address and the name of the EPWP;
  - (b) the tasks or job that the worker is to perform; and

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- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker’s rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the EPWP.

A40.2 An Employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

A40.3 An Employer must supply each worker with a copy of these conditions of employment.

**A 41 Keeping Records.**

A41.1 Every Employer must keep a written record of at least the following –  
(a) the worker’s name and position;  
(b) in the case of a task-rated worker, the number of tasks completed by the worker;  
(c) in the case of a time-rated worker, the time worked by the worker;  
(d) payments made to each worker.

A41.2 The Employer must keep this record for a period of at least three years after the completion of the EPWP.

**A42 Payment.**

A42.1 An Employer must pay all wages at least monthly in cash or by cheque or into a bank account.

A42.2 A task-rated worker will only be paid for tasks that have been completed.

A42.3 An Employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the Contractor having submitted an invoice to the Employer.

A42.4 A time-rated worker will be paid at the end of each month.

A42.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

A42.6 Payment in cash or by cheque must take place –  
(a) at the workplace or at a place agreed to by the worker;  
(b) during the worker’s working hours or within fifteen minutes of the start or finish of work;  
(c) in a sealed envelope which becomes the property of the worker.

A42.7 An Employer must give a worker the following information in writing –  
(a) the period for which payment is made;  
(b) the numbers of tasks completed, or hours worked;  
(c) the worker’s earnings;  
(d) any money deducted from the payment;  
(e) the actual amount paid to the worker.

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A42.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it

A42.9 If a worker’s employment is terminated, the Employer must pay all monies owing to that worker within one month of the termination of employment.

**A43 Deductions.**

A43.1 An Employer may not deduct money from a worker’s payment unless the deduction is required in terms of a law.

A43.2 An Employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

A43.3 An Employer will be responsible for payment or contribution of UIF for all workers employed under the project. Proof of payment of UIF shall be available upon request.

A43.4 An Employer who deducts money from a worker’s pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

A43.5 An Employer may not require or allow a worker to –  
(a) repay any payment except an overpayment previously made by the Employer by mistake;  
(b) state that the worker received a greater amount of money than the Employer actually paid to the worker; or  
(c) pay the Employer or any other person for having been employed.

**A44 Health and Safety.**

A44.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

A44.2 A worker must–  
(a) work in a way that does not endanger his/her health and safety or that of any other person;  
(b) obey any health and safety instruction;  
(c) obey all health and safety rules of the EPWP;  
(d) use any personal protective equipment or clothing issued by the Employer;  
(e) report any accident, near-miss incident or dangerous behaviour by another person to their Employer or manager.

**A45 Compensation for Injuries and Diseases**

A45.1 It is the responsibility of the Employers (other than a Contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

Contractor

Witness 1

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A45.2 A worker must report any work-related injury or occupational disease to their Employer or manager.

A45.3 The Employer must report the accident or disease to the Compensation Commissioner.

A45.4 An Employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The Employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

**A46 Termination.**

A46.1 The Employer may terminate the employment of a worker for good cause after following a fair procedure.

A46.2 A worker will not receive severance pay on termination.

A46.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the Employer in advance to allow the Employer to find a replacement.

A46.4 A worker who is absent for more than three consecutive days without informing the Employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

A46.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

**A47 Certificate of Service.**

- A47.1 On termination of employment, a worker is entitled to a certificate stating –
- (a) the worker’s full name;
  - (b) the name and address of the Employer;
  - (c) the EPWP on which the worker worked;
  - (d) the work performed by the worker;
  - (e) any training received by the worker as part of the EPWP;
  - (f) the period for which the worker worked on the EPWP;
  - (g) any other information agreed on by the Employer and worker.

**A48 Contractor’s default in payment to Labourers and Employees.**

Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.

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Employer

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The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

**A49 Provision of Hand tools.**

The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions

**A50 Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)**

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any Municipal projects:

- Protective overalls

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Protective footwear
- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

**A51 Community participation**

**A51.1 Purpose**

In order to give effect to the need for participation and transparency in the process of appointing labour, the community should participate in the decision making process throughout the life of a project. This shall be achieved through structured engagement between those responsible for the delivery of the project and the community.

**A51.2 Structure and Composition**

A Project Steering Committee (PSC) may be formed from representatives of the Employer, the Engineer, the Contractor and the Community if the project is such that a specific community can be identified.

**A51.3 Procedures**

The PSC deals with labour and SMME involvement on the project and shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.

The PSC shall make recommendations by consensus. If consensus cannot be reached, the decision of the Employer will be final in cases that have no financial implications for the Contractor or where payment is to be made from PC items. Where the financial responsibility for the successful completion of the works rests with the Contractor, the Contractor’s decision shall be final. In fulfilling its tasks, the PSC shall be guided by the relevant sections of this specification and the supplementary documents.

**A51.4 Tasks of the PSC**

- (a) To assist with community liaison and resolution of disputes.
- (b) To devise fair and transparent procedures that will assist the Contractor in the engagement of labour and the award of sub-contracts to SMME’s.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (c) To advise on and monitor labour issues.
- (d) To assist in resolving labour disputes.

**A51.5 Assistance to the PSC**

The Employer may appoint a competent local person as a Community Liaison Officer to assist the Engineer and the Contractor in the day to day liaison with the communities directly affected by the project.

**A52 Community liaison officer (CLO)**

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

**A52.1 Duties of the Community Liaison Officer**

The Community Liaison Officer's duties will be:

- (a) To be available on site daily between the hours of 07h00 and 17h00 and at other time as the need arises. His normal working day will extend from 07h00 morning until 17h00 in the afternoon.
- (b) To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
- (c) To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
- (d) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
- (e) To attend all meetings in which the community and/or labour are present or are required to be represented.
- (f) To assist in the identification, and screening of labourers from the community in accordance with the contractor's requirements.
- (g) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.
- (h) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
- (i) To keep a daily written record of his interviews and community liaison.
- (j) To attend monthly site meetings to report on labour and RDP matters.
- (k) All such other duties as agreed upon between all parties concerned.
- (l) To submit monthly returns regarding community liaison.

**A52.2 Payment for the Community Liaison Officer**

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Employer

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Witness 2

A special pay item is incorporated in section 1200 of the bill of quantities relating to payment of the liaison officer on a prime cost sum basis. This payment shall only be made for the full duration of the contract. The remuneration of the CLO shall be determined jointly by the contractor, engineer and employer.

### A52.3 Period of employment of the Community Liaison Officer

The period of employment of the community liaison officer shall be as decided upon jointly by the contractor, engineer and employer.

### A53 Reporting.

The Contractor shall submit monthly returns/reports as specified below:

- Signed Muster rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- Certified ID copies of all locally employed labour
- Signed Contracts between the employer and the EPWP Participants
- Attendance Registers for the EPWP Participants
- Monthly Reporting Template as per EPWP requirements
- Plant utilization returns
- Progress report detailing production output compared to the programme of works

## C3.2 ENGINEERING

### C3.2.1 Design services and activity matrix

Description	Responsibility
Design of Works	Engineer
Concept, feasibility and overall process	Client
Basic Engineering and detail layouts to tender stage	Engineer
Final Design of Works	Engineer
Final Design to approved for construction stage	Client
Preparation of tender documentation & adverts	Engineer
Appointment of soil test / topographical surveyors/ etc	Client
Risk assessment, quality assurance, Project Health and safety specifications and compliance.	Engineer
Construction and appointment of sub-Contractors	Contractor
Supervision	Engineer
Preparation of as-built drawings	Contractor / Engineer
Completion certificate	Engineer / Client / Contractor

**C3.2.2 Drawings.**

The Engineer will provide the Contractor with three full sets of drawings, which will be used exclusively for the recording of as built information by the Contractor.

Only dimensions, positions, levels, co-ordinates etc. that change from the original values, will be required to be entered on these drawings. These drawings, fully marked up, will be handed to the Engineer at the issue of the Certificate of completion, which will not be issued until the as-built information has been received.

**C3.3 PROCUREMENT**

**C3.3.1 Procurement principles**

The Tenderers notice is drawn to the fact that the awarding of this tender will be in terms of the Supply Chain Management Policy of the Bela-Bela Local Municipality.

The standard uniformity of construction in construction published by the Construction Industry Development Board (CIDB) as well as the National Treasury Standard for Infrastructure Procurement and Delivery Management (SIPDM) is adopted for the procurement of this contract, in order to establish the minimum requirements that:

- Promote cost efficiencies through the adoption of a uniform structure for procurement documents, standard component documents and generic solicitation procedures;
- Provide transparent, fair and equitable procurement methods and procedures in critical areas in the solicitation process;
- Ensure that the forms of contract that are used are fair and equitable for all parties to a contract; and
- Enable risk, responsibilities and obligations to be clearly identified.

**C3.3.2 Contractor’s personnel**

The Contractor shall limit the utilization of his permanently employed personnel to the key personnel only on the Works, as defined below, and shall execute and complete the Works utilizing a temporary workforce employed directly by the Contractor and/or by his sub-Contractors, using the assistance of the Ward Councillor and his/her Project Steering Committee (PSC) from the various communities that are established within the same ward where the works will be executed.

Without derogating from the Contractor’s obligations to complete the Works within the specific time for completion in terms of the General Conditions, the numbers in each category of the Contractor’s key personnel, as stated by the Contractor in the Returnable Schedules, will be strictly controlled during the contract and any increase in numbers will be subjected to the prior approval of the Employer.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Key personnel means all contracts managers, site agents, site clerks, materials and survey technicians, quantity surveyors, trainers, supervisors, foremen, skilled plant operators, brick layers, welders, shutter hands and the like, and all other personnel in the permanent employ of the Contractor or his sub-Contractors who possess special skills, and or/ who play key roles within the Contractor’s or his Sub-Contractor’s operations.

The Engineer may at his discretion, upon receipt of a written and fully motivated application from the Contractor, and where he deems the circumstances so warrant, authorize in writing that the Contractor may utilize in the execution of the Works, workers not being his key personnel but who are in permanent employ. Without limiting the generality to warrant of this sub-clause, circumstances which may be considered by the Engineer to warrant authorization of the use of the Contractor’s permanent employees other than key personnel include:

- a) The unavailability from local sources of sufficient numbers of temporary workers and/or sub-Contractors to execute the Works, provided always that the Contractor has satisfied the Engineer that has exercised his best endeavours and taken all reasonable actions to recruit sufficient temporary workers and sub-Contractors from local sources.
- b) The unavailability within the temporary worker pool and/or from Sub-Contractor sources available to the Contractor in terms of the Control, of sufficient skills necessary to execute the Works or specific portions thereof, in situations where the completion period allowed in the Contract is insufficient to facilitate the creation of the necessary a warrant provision of suitable training as contemplated in the Contract;
- c) Any other circumstances which the Engineer may deem as constitution a warrant.

**C3.3.3 Temporary Workforce/ Employment of Local Labour**

The Contractor shall employ labour from the local communities that are within the same ward where the works will be executed, through the assistance of the Ward Councillor and his/her Project Steering Committee (PSC) from the various communities that are established within the same ward where the works will be executed.

Accordingly, the workforce that is employ on Site shall consist of local residents, except for approved key staff in the permanent employ of the Contractor, to maximum extent that is compatible with the requirements of Clause C.3.32.

It is a specific criterion of this project that should as far as possible adhere to EPWP principles, and to meet these principles the following procedures will be followed:

- All labour is to be sourced from the local communities that are within the same ward where the works will be executed, and the Contractor may only bring key personnel from outside this area.

Contractor

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Employer

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Witness 2

- The fixed rate for the appointment of local labour will be as per the Department of Labour Ministerial determination applicable in that project duration. This will be payable by the Contractor on monthly basis.
- A Monthly labour report on all local labour i.e. payments and labour days should be submitted to the Engineer at the end of each month in order for the Engineer to submit a report to the Employer.

The Ward Councillor and his/her Project Steering Committee (PSC) shall assist in identifying available local labour and, where available semi-skilled labour as well as local Sub-Contractors. The Employer shall assist and advice regarding conditions of employment, minimum wages, disputes and disciplinary procedures. The function of the Ward Councillor, PSC and Employer shall however in no way diminish the responsibilities of the Contractor in terms of the Conditions of Contract.

**C3.3.3.1 Requirements of Expanded Public Works Programme**

- **EPWP Project Specification**

As much as is economically feasible, all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the “Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)” shall be undertaken using Labour Intensive Construction methods.

- **Labour-intensive construction methods**

Labour-intensive construction shall mean the economically efficient employment of as great a portion of labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, thus bringing about the effective substitution of labour for plant and equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour-intensive construction methods.

Except where the use of plant is essential in order, in the opinion of the Engineer, to meet the specified requirements by the Due Completion Date, or where the use of plant is essential as a result of occupational health and safety considerations, the Contractor shall use only hand tools and equipment in the construction of those portions of the Works that are required in terms of these Project Specifications to be constructed using labour-intensive construction methods.

These portions of the Works shall be constructed utilizing only locally employed labour and/or the labour of local subcontractors, supplemented by the Contractor’s key personnel to the extent necessary and unavoidable, unless otherwise instructed

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Employer

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by the Engineer and in accordance with the further provisions of the relevant sections of Portion B of the Project Specifications.

Subject to considerations of occupational health and safety, the portions of the Works to be executed using labour-intensive construction methods are:

- Clearing and grubbing of the Site;
- Excavation for trenches up to 3,5 m deep;
- Bedding, selected fill, backfilling and compaction of all pipe trenches irrespective of depth, but assisted by mechanical compaction equipment in order to achieve the specified densities;
- Transportation and spoiling of all trench materials, where the disposal site is located within 20 metres of the source;
- Cleaning and tidying up of the site; and
- Any other manual work as assigned.

### **C3.3.3.2 Employment of unskilled and semi-skilled workers in labour-intensive works**

- **Requirements for the sourcing and engagement of labour**

Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

The rate of pay set for the EPWP is **R225.00** per task or per day.

Tasks established by the Contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.

The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements above.

The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that have less than one full time person earning an income;
- c) where subsistence agriculture is the source of income.
- d) those who are not in receipt of any social security pension income

The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 60 % women;
- b) 55% youth who are between the ages of 18 and 25; and

Contractor

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Employer

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c) 2% on persons with disabilities.

- **Specific provisions pertaining to SANS 1914-5**

Targeted labour: Unemployed persons who are employed as local labour on the project.

There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

The Contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

The cost of the formal training of targeted labour, will be funded by the Municipality where applicable.

The Contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.

The Contractors shall do nothing to dissuade targeted labour from participating in the above-mentioned training programmes.

An allowance equal to 100% of the task rate or daily rate shall be paid by the Contractor to workers who attend formal training, in terms of the information above. Proof of compliance with the requirements of training must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

### C3.3.4 Sub-Contracting

Notwithstanding the requirement to sub-contract 30% of the Contract sum to local sub-Contractors; works may not be sub-contracted to another party unless approval is given by the Engineer in writing. The Contractor must advertise the sub-contracting packages in local public areas within the Municipal area and submit to the Engineer in writing a request for

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Contractor

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Employer

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appointment of a particular sub-Contractor subsequent the evaluation of the submitted bids. Accompanying this request is to be the full detail of the sub-Contractor, including:

- Previous experience
- Work which will be sub-contracted to him/her
- Approximate value of the work to be sub-contracted

Before the Engineer issues any certificate that includes any payment in respect of work done or goods supplied by any sub-Contractor appointed in accordance with the provisions of Clause 4.4 of the General Conditions of Contract Third Edition (2015), he shall be entitled to call upon the Contractor to furnish reasonable proof that all payments (less retention moneys) included in previous certificates in respect of the work or goods of such sub-Contractors have been made or discharged by the Contractor, in default of which, unless the Contractor:

- Informs the Engineer in writing that he has reasonable cause for withholding or refusing such payment; and
- Submits to the Engineer reasonable proof that he has so informed such sub-Contractor in writing.

**F4. JOB CREATION REPORTING FOR EPWP**

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

**F4.1 Type of project data required per project**

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. ***The data that is required to be kept and maintained for each project includes:***

**F4.1.1 Beneficiary data**

A beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:

- (a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).
- (b) Beneficiary profiles – nationality, gender, age, education level and disability status.
- (c) Monthly work data for beneficiaries – daily wage to be received, number of calendar days training attended and number of calendar days worked.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**F4.1.2 Project work data**

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.
- (b) Summary of monthly attendance.

**F4.1.3 Project payment data**

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

- (a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

**Alternatively,**

- (b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

*The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.*

**F4.1.4 Employment output data**

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

- (a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).
- (b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.
- (c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).
- (e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

## C3.4 CONSTRUCTION

### Contents:

- C3.4.1 Standard Specifications
- C3.4.2 General Project Specifications
- C3.4.3 Mechanical Project Specification
- C3.4.4 Electrical Project Specification
- C3.4.5 Electronic Project Specification

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Contractor

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Employer

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Witness 2

**C3.4.1 Standard Specifications**

The Standard specifications on which this contract is based are the South African National Standards (SANS).

The SANS 1200 Specifications shall form part of this contract and are available at the expense of the Contractor from the SA Bureau of Standards, Private Bag X191 Pretoria, 0001:

Other Standard Specifications:

No.	Rev.	Title and Publisher	Attached Y/N
SCSASABK3	0	Distribution Standard Part 7: Substation Section 2. Generic Substation Design	N
ESKASAAN0	1	Standard for labelling of high voltage equipment - Eskom	N
TRMSCAAC5	3	Design and manufacture of high voltage equipment labels – Eskom	N
SABS 135	1991	ISO metric bolts, screws and nuts (hexagon and square) (course thread free fit series) - SABS	N
SABS 763	1988	Hot dip (Galvanised) zinc coatings (other than on continuously zinc-coated sheet and wire) - SABS	N
SABS 1200	—	Standard specification for civil engineering construction - SABS	N

SABS 0162 Code of Practice for Structural Steelwork. The Machinery and Occupational Safety Act (Act No. 6 of 1983) as amended

SANS 0120:1980, Part 2, section G - For the requirements and tests for water tightness

SANS 121 (ISO1461) - For the requirements galvanised steel

SANS 1039 Sec A/SAV - For the requirements tank panels

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

### C3.4.2 General Project Specifications

In the event of any discrepancy between the Project Specifications and SANS 1200 Standardized Specifications, the Schedule of Quantities or the Drawings, the Project Specifications shall take precedence. Where discrepancies arise with regard to the units of the payment items only, the units stated in the Schedule of Quantities shall prevail.

- PS 1 CONSTRUCTION PROGRAMME
- PS 2 SITE FACILITIES AVAILABLE
- PS 3 SITE FACILITIES REQUIRED
- PS 4 FEATURES REQUIRING SPECIAL ATTENTION
- PS 5 INFORMATION SUPPLIED BY EMPLOYER
- PS 6 EXTENSION OF TIME ARISING FROM ABNORMAL RAINFALL
- PS 7 CERTIFICATES OF PAYMENT
- PS 8 CONSTRUCTION IN LIMITED AREAS
- PS 9 NON-WORKING DAYS
- PS 10 SPOIL MATERIAL
- PS 11 DRAWINGS
- PS 12 LENGTH OF TRENCHES
- PS 13 SAMPLES
- PS 14 MANUFACTURER'S INSTRUCTIONS
- PS 15 MATERIALS AND PLANT
- PS 16 NOTICES, SIGNS, BARRICADES AND ADVERTISEMENTS
- PS 17 SETTING OUT OF WORK
- PS 18 WORKMANSHIP AND QUALITY CONTROL
- PS 19 TRANSPORT OF MATERIAL
- PS 20 LIAISON WITH LOCAL AUTHORITIES
- PS 21 LOCAL LABOUR AND LOCAL SUB-CONTRACTORS
- PS 22 TRAINING SCHEMES
- PS 23 PRESCRIPTIONS IN RESPECT OF EXISTING SERVICES

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**PS 1: CONSTRUCTION PROGRAMME**

It is a prerequisite of this contract that minimal disruption of the public is ensured during construction.

Construction methods must be of such a nature that no property or life is endangered. The Municipality accepts no responsibility for any work done outside the site boundaries without the Engineer's approval. The Contractor himself is responsible for liaison and arrangements with the Engineer in connection with the finalization and approval of the construction programme.

The Contractor is responsible for liaison with residents and house owners via the Project Steering Committee in respect of the programming of construction through private erven and the crossing of driveways to erven. No additional payment will be made in this regard and it shall be deemed to be covered by the relevant items.

Sufficient digital photographs of all existing structures and obstructions in the pipe line routes must be taken by the Contractor, compiled electronically, indexed and handed over to the Engineer before construction commences.

The Contractor shall submit a programme of work to the Engineer/Municipality not later than 14 (fourteen) days after the Contractor has been notified of the acceptance of his tender. This programme must take into account and allow for phased completion of the work. The Engineer may instruct the Contractor to stop construction work at any stage and time, as may be dictated by financial constraints highlighted by the Clients Cost Control Programme.

If necessary, the Engineer may instruct the Contractor to adjust his programme to suit other activities.

The programme shall not be in the form of a bar chart only, but shall clearly show the anticipated quantities, the production rates and value of work to be performed each month.

A network-based programme according to the precedence method shall also be provided showing the various activities and critical path in such detail as may be required by the Engineer. The programme shall be updated monthly in accordance with the progress made by the Contractor.

Failure to comply with these requirements will entitle the Engineer to use a programme based on his own assumptions for the purpose of evaluating claims for extension of time or additional payments.

**If the programme submitted by the Contractor in terms of Clause 15 of the General Conditions of Contract**, has to be revised because the Contractor is falling behind in his programme, he shall submit a revised programme of how he intends to regain lost time to ensure completion of the Works within the period defined in Clause 45 of the General Conditions of Contract or within a granted extension of time. A proposal to increase the tempo of work must incorporate positive steps to increase production either by more labour and plant on the site, or by using the available labour and plant in a more efficient manner.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Failure on the part of the Contractor to submit or to work according to the programme or revised programmes shall be sufficient reason for the Engineer to take steps as set out in Clause 58 of the General Conditions of Contract.

The approval by the Engineer of a programme shall have no contractual significance other than the Engineer will be satisfied if the work is carried out according to the programme. The said approval shall not limit the right of the Engineer to instruct the Contractor to vary the programme if necessary. The Contractor shall allow for the effect of normal rainfall and special non-working days in his programme.

**(CRITICAL PATH MUST BE INDICATED ON PROGRAMME)**

**PS 2 : SITE FACILITIES AVAILABLE**

PS 2.1 : Water, electricity and sewage

The Contractor shall make his own arrangements concerning the supply of electrical power, water, telephone and all other services, both for use at the site establishment area as well as for the use in the construction of the Works. No direct payment shall be made for the provision of any service and the cost thereof shall be deemed to be included in the rates tendered for the various items of work for which these services are required.

PS 2.3 : Rain gauge

The Contractor must set up his own rainfall gauge. This item is included in the Schedule of Quantities under other fixed-charge obligations.

**PS 3 : SITE FACILITIES REQUIRED**

PS 3.1 : Water, electricity and sewage

The Contractor shall, at his own expense, be responsible for obtaining and distributing the water and electricity required for construction and domestic use. The distribution of water and electricity shall be carried out in accordance with the applicable laws and regulations.

No separate payment will be made for obtaining and distributing water and electricity, the cost of which will be deemed to be included in the tendered rates.

PS 3.2 : Site instruction book

A triplicate book shall be provided by the Engineer to be used for site instructions. It shall at all times be kept on the site.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**PS 4 : FEATURES REQUIRING SPECIAL ATTENTION**

**PS 4.1 : Access to properties**

The Contractor shall organize the work in such a manner as to cause the least possible inconvenience to the employees working around the site as this is a public institution.

**PS 4.2 : Contractor's vehicles**

All equipment and vehicles used by the Contractor shall be roadworthy at all times and all drivers and operators shall be in possession of valid drivers' licences.

**PS 4.3 : Site maintenance**

During the progress of the work and upon its completion, the site of the works shall be kept and left in a clean and orderly condition. The Contractor shall at all times store materials and equipment for which he is responsible in an orderly manner and shall keep the site free from debris and obstruction. Workers shall lunch or have tea breaks only in a designated area with approved refuse and toilet facilities.

No open fires shall be permitted on the site.

Vehicles and workers must adhere to property demarcated access routes and not take or make short cuts.

**PS 4.4 : Sub-Contractors**

The Contractor is responsible for work carried out on his behalf by Sub-Contractors. The Engineer will not liaise directly with such Sub-Contractors, and all problems relating to payments, programming, workmanship, etc, shall be the concern of the Contractor and the Sub-Contractor, and the Engineer will not be involved.

**PS 4.5 : Existing Services**

Before the Contractor commences operations, he must discuss with and have the approval of the Employer, authority or owner concerned regarding the method he proposes to use for relocating or safe-guarding any services and existing works he may encounter during construction.

The Contractor shall be responsible for any damage to such existing services and works in the execution of this contract and shall reimburse the Employer, authority or the owner concerned for any repairs required and for damages.

The Contractor shall be responsible for immediately notifying the Engineer and the authorities concerned regarding any damage caused to public services and existing works.

**Any alteration to public services shall be carried out by the Authority concerned unless the Contractor is instructed otherwise.**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The Contractor shall provide the necessary assistance during any operations necessary in connection with the removal, alteration or safe-guarding of any public service.

**PS 4.6 Safety**

The Contractor shall apply suitable proven methods for construction so that his activities will not constitute a hazard to the public or any adjacent property. All excavations shall be suitably safeguarded and barricaded especially during night time, weekends or holidays and any other day of inactivity by the Contractor.

**PS 5 : INFORMATION SUPPLIED BY EMPLOYER**

Certain information contained in these contract documents, or provided separately, is being offered in good faith. However, in the circumstances pertaining to the type of information supplied, no guarantee can be given that all the information is necessarily correct or representative. More specifically this applies to all material surveys and reports and similar information, the accuracy of which is necessarily subject to the limitation of testing, sampling, the natural variation of material or formations being investigated and the measure of confidence with which conclusions can be drawn from any investigations carried out. It also applies to the positions of existing services as indicated on the drawings.

The Employer accepts no liability for the correctness or otherwise of the information supplied or for any resulting damages, whether direct or consequential, should it prove during the course of the contract that the information supplied is either incorrect or not representative. Any reliance placed by the Bidder on this information shall be at his own risk.

**PS 7 : CERTIFICATES OF PAYMENT**

It was agreed that the master copy of the payment certificates would be drawn up and processed by the Contractor. All costs to this effect, as well as reproduction costs shall be to the account of the Contractor. It was agreed that the first month's certificate will be evaluated and if in order, the same format will be used throughout the contract.

**PS 8 : CONSTRUCTION IN LIMITED AREAS**

In certain cases, working space may be limited. The method of construction in these restricted areas will depend largely on the Contractor's plant. However, the Contractor must note that measurement and payment will be according to the specified cross-sections and dimensions irrespective of the method used to achieve these cross-sections and dimensions, and that the rates and prices tendered shall be deemed to include full compensation for any difficulty encountered while working in limited areas and narrow widths, and that no extra payment will be made, nor will any claim for payment due to these difficulties be considered.

Contractor

Witness 1

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Employer

Witness 1

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**PS 9 : NON-WORKING DAYS**

The Contractor shall not work on Sundays or on the following statutory Public Holidays: New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers Day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and Day of Goodwill. Whenever

any of the above statutory Public Holidays fall on a Sunday, the following Monday shall be a Public Holiday.

**PS 10 : SPOIL MATERIAL**

No indiscriminate spoiling of material will be allowed. All surplus or unsuitable material shall be spoiled in designated areas as directed by the Engineer. Spoiling shall comply with the applicable statutory and municipal regulations.

**PS 11 : DRAWINGS**

All "as built" information, as listed below, must be submitted to the Engineer's Representative before a certificate of completion will be issued. No separate payment will be made for the\_"as built" drawings

**PS 13 : SAMPLES**

The Contractor shall at his own cost, supply all samples that may be required. Material or work not conforming to the approved samples shall be rejected. The Engineer reserves to himself the right to submit samples to any tests to ensure that the material represented by the sample conforms to the requirements of the specifications. The cost of all tests failed shall be for the Contractor's account.

**PS 14 : MANUFACTURER'S INSTRUCTIONS**

The recommendations of the manufacturers of patented materials must be strictly adhered to regarding the use, mixing, application, fastening, etc. thereof except when otherwise instructed in writing by the Engineer.

**PS 15 : MATERIALS AND PLANT**

The Contractor, when using materials that are required to comply with any standard specification, shall, if so ordered, furnish the engineer with certificates of compliance.

Where so specified, materials shall bear the official mark of the appropriate authority. Samples ordered or specified shall be delivered to the engineer's office on the site free of charge.

Where proprietary products have been specified, similar products may be used subject to the prior written approval of the engineer.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Unless otherwise specified, all proprietary materials shall be used and placed in strict accordance with the relevant manufacturer's current published instructions.

Unless anything to the contrary is specified, all manufactured articles or materials supplied by the Contractor for the permanent works shall be unused.

Existing structures on the site shall remain the property of the Employer and except as and to the extent required elsewhere in the contract, shall not be interfered with by the Contractor in any way.

Materials to be included in the works shall not be damaged in any way and, should they be damaged on delivery or by the Contractor during handling, transportation, storage, installation or testing they shall be replaced by the Contractor at his own expense.

All places where materials are being manufactured or obtained for use in the works, and all the processes in their entirety connected therewith shall be open to inspection by the engineer (or other persons authorised by the engineer) at all reasonable times, and the engineer shall be at liberty to suspend any portion of work which is not being executed in conformity with these specifications.

The Contractor shall satisfy himself that any quarry selected for use provides the necessary mined material in accordance with the specification.

**PS 16 : NOTICES, SIGNS, BARRICADES AND ADVERTISEMENTS**

The Contractor shall erect the necessary signs, notices and barricades for the duration of the contract in order to safeguard both the works and the public.

Notices, signs and barricades as well as advertisements may be used only upon approval by the Engineer, and the Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to have any sign, notice or advertisement moved to another position or to have it removed from the site of the works, should it in any way prove to be unsatisfactory, inconvenient or dangerous to the general public.

Such notices, signs and barricades shall be provided and erected at the Contractor's own expense.

The standard name board of the South African Association of Consulting Engineers is specified. The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of Quantities for this purpose.

**PS 17 : SETTING OUT OF WORK**

Reference and level beacons will be shown to the Contractor by the Engineer at the commencement of the Contract and the Contractor will be responsible for transferring the data to the Site of Works.

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Contractor

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Witness 2

Employer

Witness 1

Witness 2

The Contractor shall check the condition and accuracy of all reference and level beacons and satisfy himself that they have not been disturbed and are true with regard to position and level. A beacon that has been disturbed shall not be used until its true position and level have been re-established and the new values have been certified by the Engineer. The Contractor shall thereafter be held entirely responsible for the protection of all reference and level beacons.

The Contractor shall submit the method of setting out he proposes to employ to the Engineer. Accurate control of line and level shall be provided by the Contractor at all stages of construction.

Work set out by the Contractor may be checked by the Engineer and any errors found shall be rectified by the Contractor at his own expense. The Contractor shall supply any instrument, equipment, material and labour required by the Engineer for this survey work. Any assistance, including checking given to the Contractor by the Engineer or any setting out done by the Engineer for Contractor shall not be held as relieving the Contractor of his responsibility for the accurate construction of the Works.

**PS 18 : WORKMANSHIP AND QUALITY CONTROL**

The onus to produce work which conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality-control system and provide experienced foremen, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment, to ensure adequate supervision and positive control of the works at all times.

The costs of all supervision and process control, including testing thus carried out by the Contractor shall be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various standardized specifications regarding the minimum frequency of testing that will be required for process control. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion of every part of the work and submission thereof to the Engineer for examination, the Contractor shall furnish the Engineer with the results of all relevant tests, measurements and levels to indicate compliance with the specifications.

**PS 19 : TRANSPORT OF MATERIAL**

All costs of transporting material shall be included in the applicable tendered rates. All references in the specifications to transport, overhaul and haul distances shall be deleted irrespective of whether or not the deletion is included in these project specifications.

**PS 20 : LIAISON WITH LOCAL AUTHORITIES**

The Contractor will have to liaise with local authorities regarding the following matters:

- (a) Protection of existing services during construction.

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Contractor

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Employer

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Witness 2

All the relevant authorities were notified of above operations. It is then the Contractor's onus to immediately contact all these authorities and to accommodate their involvement in his programme of work. The Contractor should also warn the authorities at least 48 hours before the actual work commences. Compensation for delays, losses or accidents will not be considered should the Contractor at any time have failed to keep the local authorities informed.

The Engineer or Employer must immediately be notified, should the Contractor experience any problem regarding work which involve a local authority.

Contractor

Witness 1

Witness 2

Employer

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### C3.4.3 Electrical Project Specification

- PSE 1 SCOPE OF WORK AND PROGRAMME
- PSE 2 DRAWINGS, MANUALS, TRAINING, SPARES AND TOOLS
- PSE 3 INSPECTIONS, TESTS AND COMMISSIONING
- PSE 4 TESTS
- PSE 5 FIRE EXTINGUISHERS, FIRST AID KITS, DANGER SIGNS
- PSE 6 MATERIALS, FINISHING AND PAINTING OF MATERIALS
- PSE 7 FIXING OF MATERIALS
- PSE 9 LV MOTOR CONTROL CENTRE (MCC)
- PSE 10 FIELD CONTROL STATIONS
- PSE 11 LOW VOLTAGE POWER CABLES
- PSE 12 CABLE SUPPORTS
- PSE 13 CABLE TRENCHES
- PSE 14 EARTHING
- PSE 15 ELECTRICAL BUILDING SERVICES
- PSE 16 AREA AND ROAD LIGHTING
- PSE 17 BUILDING TRENCH COVERS
- PSE 18 MEASUREMENT AND PAYMENT

Contractor

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Employer

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Witness 2



**CIVIL WORKS SCOPE:**

Preparatory Work

In order to design the envisaged work a Geotechnical investigation and a detailed Survey needed to be done. These were done and handed to us. The detail survey indicate that the cable trenches were built accurately, but the bases were not. For this reason, the bases are to be discarded, but a final decision will be made once the correct position is determined during the construction phase.

Envisaged Work

300 mm of the existing gravel must be removed, stock piled and maintained. The in situ material must be ripped, shaped to the correct levels and recompact to 93 % mod AASHTO. The levels and slope are shown on DRG 2416/T/09. The details of the Sub-Soil Drain and the Sump Pumps Manholes are also shown. It is advisable to use solar pumps, but it will be specified by the Electrical Engineer. These will be done firstly to drain the ground water from the site.

Road Works

The access road for Eskom was designed for a truck with a wheel base of 15 m and a turning circle of 15 m as shown on DRG 2416/T/051 & 052. As can be seen the limited space restrict the options and a reverse action had to be used. This will only be used when the truck is empty. For small trucks the reverse action will not be needed. The entrance gates will be a 7,5 m sliding gate or it can be split into two gates of 3.75 m. The bridge over the storm water channel will be formed with a 600 x 600 boxed culvert. The layer work is shown on drawing.

Concrete Bases

As previously mentioned, the position and sizes of the bases are questionable and will be replaced. A base will only be retained if it conforms in terms of the relevant drawings and specifications. This process will happen when the Contractor is on site. At present it is taken to not conforming. When the survey was super imposed on the drawing, the discrepancy was too big to accept it as correct. The standard details of Eskom were used to draw the bases.

The envisaged work to complete the project is as follows:

1. A detailed survey with a 20 m grid.
2. All existing structures measured.
3. Removal of 300 mm fill material and backfill with G5 gravel as described above.
4. Compact fill material in layers not exceeding 150 mm.
5. Level and slope surface layer to form a slope of 1: 100 slope.
6. Fill 100 mm layer between existing bases.
7. Excavate sub-soil drain trench to a depth of 1,2 m.
8. Install an A4 Geofabric bidem layer in trench for the circumference.
9. Install 110 mm perforated pipe at a slope of 1: 100 in trench.
10. Fill trench with + 6,7 – 26 crushed stone to 300 mm below surface.
11. Fill top 300 mm of trench with G5 gravel.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

12. Install 1,0 m diameter manholes.
13. Install sump pump (2 l/s, 5 m head).
14. Install delivery pipe draining into existing storm water channel.
15. Open existing drainage pipes from the platform to the storm water channel.
16. Construct access road and gates

The existing gravel platform has a maximum allowable bearing pressure ranging between 300 and 400 kPa. It is recommended that the ground bearing pressure does not exceed 150 kPa. This the normal bearing capacity for a insitu gravel layer. All base will be checked to comply with this requirement. The attached drawings show the existing and planned services. The new drawing was converted from a converted existing PDF drawing and can only be seen as a planning drawing.

### **PSEE 1.2 Programme**

The Contractor shall produce a detailed project programme showing delivery periods and planned installation dates for all electrical equipment. The detailed baseline program shall be submitted to the Engineer two weeks after the contract award. The electrical programme shall also take into consideration the civil contract/ programme.

## **PSE 2 DRAWINGS, MANUALS, TRAINING, SPARES AND TOOLS**

### **PSE 2.1 Design Data Pack**

The Contractor shall produce and submit an Electrical Design data pack for approval by the Engineer within three (3) weeks after award of contract and before procurement of any equipment. The data pack shall include more details about the equipment to be supplied and installed than what has been provide in the Technical Data during tender stage.

The Contractor shall also submit the following design documents/ drawings as part of the contractual deliverables. All documents and drawing must be approved by the Engineer prior to ordering of any equipment:

- Cable support layout drawing designs for the building. This shall include the mounting details on all structures. All cable support infrastructure must be included in the cable schedules.
- Cable schedules for all cables (LV power, control stations) for each switchboard, field control stations etc.
- Site trenching route that indicates the details of the cables that will be installed in the various sections of the ground trenching.
- Building cable trench details showing the required cable racks. All cable supports must be included in the cable schedules.

Please note that the items in the Bill are an allowance only and that the final ordering of materials shall only be done after the schedules/ drawings have been approved by the Engineer.

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The Contractor shall submit manufacturing drawings to the Engineer for approval for all equipment. For all manufacturing drawings related to the electrical equipment the following information shall be shown:

- Project Name and Contract Number
- Manufacturer/Supplier
- Consulting Engineer and contact person
- Client details
- Drawing Number and Revision
- Drawing to be Signed
- Source of Supply – MCC or transformer name etc.
- Switchboard General Description
- Fault level (kA and time rating)
- Form factor/Sectioning
- Busbar Details (cross-section, material type, tinned etc.)
- Busbar Support Details – type, manufacturer
- Earth bar details (cross-section, full-length, front or rear etc.)
- Switchboard Material type, grade, thickness etc.
- Gland Plate details – material type, thickness, mounting etc.
- Colour – internal and external
- Switchboard Dimensions
- Base Dimensions and bolting arrangements
- Front door details – hinge and padlock requirements
- Rear door details – hinge and padlock requirements
- End panel details – removable cover details
- Door details - Stiffeners and restrainers installed etc.
- Hinge Details
- Locking Details
- Handle Details
- Cable Entry Details
- All bolts, nuts, screws material type (i.e. 316 Stainless Steel)
- Equipment details – CB ratings, fault levels, type, manufacturer
- Equipment Layout details – Cubicle name, function, equipment function etc.
- Indication Light colours
- Section through switchboard

The Contractor shall also submit electrical drawings for all equipment. These schematic drawings for switchboards (MCCs, DBs, field control stations, etc.), the following information shall be shown:

- Project Name and Contract Number
- Manufacturer/Supplier
- Consulting Engineer and contact person
- Client details
- Drawing Number and Revision
- Revision details to be listed
- Drawing Page Number

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Drawing to be Signed
- Reference Grid required on each schematic page
- Source of Supply – MCC or transformer name etc.
- Fault level (kA and time rating)
- Voltages for all circuit to be clearly indicated
- All devices to have reference number i.e. relays
- Equipment ratings to be given i.e. motor ratings
- All indication lamps to be labelled including required lamp colour
- Legend to be provided
- Equipment Tag Numbers as Water Services Plant Numbering System.
- All fieldbus device addresses, cable and termination details, network bus speeds and shielding details.

**PSE 2.2 Drawings**

Refer to Electrical drawings attached, and these, shall be read in conjunction with this Detailed Specification:

**PSE 2.3 Operation and Maintenance Manuals**

Four copies of the O & M Manual shall be issued to the Engineer prior to commissioning of the Works, and the Trial Operation Period shall not commence until the manual has been issued. Before the Taking-over Certificate is issued (after the successful completion of the Trial Operational Period) six copies of the final approved version of the O & M Manual shall be issued to the Engineer.

The manual shall be of a standard acceptable to the Engineer and shall be subject to his approval. At least one (or one set) shall contain original copies.

Binders with hard plastic covers and four-ring spring clip holders shall be used. Binders shall not be over-filled to allow use without damage to the contents. A spare binder shall be provided for every three used, marked with the contract information.

Title labels which include contract number, title, location, Contractor's name as well as the plant or process description together with volume number and contents shall be fixed on the front as well as the spine of the binders.

Manuals shall be in English only, with sections of equipment arranged by labelled dividing separator sheets. Where standard literature is obtained from suppliers or manufacturers, this shall be neatly photocopied in A4 size, with the applicable sections clearly marked, omitting duplicate sections in languages other than English.

Comprehensive indexes shall be included, with separate sections (with their own index) where required, as follows:

- a) Details of the electrical equipment supplied including the name and address of the supplier, and descriptive and technical literature, giving performance and service information.

Contractor

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- b) Full details of control and protection systems including logic sequence charts, logic controller programs, trip settings, etc.
- c) Circuit diagrams.
- d) Dimensioned panel layout drawings.
- e) Cable schedules for power and instrumentation cables. This shall include the cable type, start and finish points, route length, duty load, size, voltage drop, number of cores, number of cores used and gland size.
- f) Record (as-built) drawings referenced to the above. As-built drawings shall be provided by the contractor. Cable routes to be surveyed on layout drawings.
- g) Recommended short term and long-term spares list.
- h) A comprehensive schedule of routine maintenance by time period for the system as installed.
- i) Taking over certificates (FAT, SAT and COC etc.)
- j) Training

Training for the operation and maintenance of the complete Electrical System and equipment shall be included and shall provide for at least one separate training session of each of the site operational, electrical and instrumentation staff groups.

The training shall be supported by the content of the O&M Manual and the Contractor shall compile an attendance register and accreditation of staff so trained.

The Contractor shall produce a training certificate detailing the training that has been provided with a place for all municipal staff representatives to sign that the training was received. The signed training certificate must be included in the O&M manuals.

**PSE 2.4 Spares and Tools**

Spares and tools shall be provided as called for in the particular equipment specifications. In addition to any spares specifically called for in this Specification, the Tenderer shall recommend any additional spares which he considers the Employer should hold. The prices of these spares must not be included in the tender price.

Prices must be included in the list of recommended spares and these prices shall include delivery to and off loading at the site. It shall be noted that the recommended spares list must be divided into the following categories:

- Commissioning spares
- Operations spares
- Critical spares

The following spares and tools shall be provided as called for in this specification:

- Software and interface cables

**PSE 3 INSPECTIONS, TESTS AND COMMISSIONING**

**PSE 3.1 General**

The following requirements shall be complied with:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

For equipment being manufactured in South Africa, the Engineer and a Municipal representative will attend one factory inspection and the Contractor shall bear all travel costs and disbursements associated with the inspections.

For all the inspections and tests the Contractor shall notify the Engineer in writing at least 2 weeks in advance, when his presence will be required for inspections or witnessing of tests. This time is required for the Contractor to make the required travel arrangements and Engineer to plan accordingly. In the event that tests fail, the Contractor shall be required to affect all corrections and perform such tests again.

Should these tests require the Engineer to be present again, the Engineer's cost for time, travel and disbursements shall be recovered from the Contractor at rates as set out by the Engineering Council of South Africa.

### **PSE 3.2 Inspections**

- a) All items shall be inspected by means of detailed design drawings and equipment schedules that are submitted to the Engineer for approval. No items shall be procured/ ordered prior to the Engineer's approval of the selected equipment and design drawings. If any equipment does not meet the specifications the Contractor shall change the equipment to comply with the specification at no additional cost to the Municipality.
- b) All cable trenches shall be inspected by the Engineer's representative prior to cables being laid, and after cables have been laid, prior to backfilling.
- c) The Contractor shall submit a quality control plan and procedures document for all main equipment. These documents shall include baseline delivery dates for checking by the Engineer.
- d) Factory Acceptance Tests (FAT) will include physical inspections and all functional testing of equipment. As part of the testing all connections to the PLC, HMI, and all other simulations will be checked (the details of these requirements are included in the electronic specification). The Contractor shall bear all travel costs associated with the factory inspections. This shall include all travel costs (return flights for the Engineer, car rental, accommodation and meals etc., as applicable) The cost for this shall be included in the FAT price in the Bill.
- e) Inspections of all switchboards and panels may be carried out by the Engineer, at his discretion, at the following holding points:
  - switchboard design (drawings and schedules)
  - after steelwork fabrication, before painting;
  - after painting, before installation of equipment inside panel/board;
  - after assembly, before factory testing.

The Contractor shall bear all associated costs for the Engineer and a Municipal representative to attend the FAT at the OEM factory. This shall include all travel costs. The cost for this shall be included in the FAT price in the Bill.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**PSE 4**

**TESTS**

Factory tests shall be carried out in accordance with the particular equipment and material specifications in this Specification and routine test certificates shall be provided. The cost of all factory routine and type tests (where existing certification is not available) shall be included in the supply prices for the equipment. No equipment shall be shipped without test certificates.

The tests listed below shall be carried out in the factory (FAT) and on site (SAT) by the Contractor and witnessed by the Engineer and a representative of the Employer. Pricing items have been included in the Schedules of Quantities for tests.

**Transformers**

- Visual checks after installation
- Control scheme and wiring testing
- Dielectric testing of auxiliary circuits
- Insulation resistance measurement
- One minute power frequency voltage test (at reduced voltage applicable)

**LV Switchboards/gear**

- visual checks (including paintwork)
- impedance measurements
- insulation resistance measurement
- current and voltage transformer tests
- proving of protection scheme
- high voltage tests
- circuit breaker operation tests
- control scheme test
- load testing
- communication and interface testing

**LV Cables**

- insulation resistance test (after jointing and termination)
- phase rotation test (after jointing and termination)

**Earthing**

- earth resistivity measurements
- earth electrode resistance measurements
- bonding conductor continuity tests

**PSE 5 FIRE EXTINGUISHERS, FIRST AID KITS, DANGER SIGNS**

Statutory danger signs and notices shall be provided in all substations/ electrical equipment rooms as part of this Contract. All danger signs and safety notices shall be in four of the official languages, viz. English, Afrikaans and Sepedi. Operating notices, signs and labels that are not safety related need only be in English. Signs/ notices with approved symbols may be used in the place of text

Contractor

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Witness 2

Employer

Witness 1

Witness 2

signs. Each of the substation building/ rooms shall have a name installed above the door on the outside of the building.

The final positions of the signage/ notices shall be confirmed on site by the Engineer.

A 9kg DCP type fire extinguisher and a first aid kit shall be supplied in each of the new substation/ electrical equipment rooms and as indicated on drawing. The first aid kits and fire extinguishers shall be installed onto the wall with a suitable steel bracket. The final positions of the fire extinguisher and first aid kit shall be indicated on site by the Engineer.

**PSE 6 MATERIALS, FINISHING AND PAINTING OF MATERIALS**

**PSE 6.1 Materials**

The environment in a sewer pumpstation is corrosive, and the following materials shall therefore be used following materials shall be used as tabulated below.

MCCs/ Distribution boards	:	3CR12
Busbars/ Earth Bars	:	S6 tinned copper
Field control stations support	:	316L stainless steel
Internal cable supports/ Unistrut	:	3CR12
External cable supports/ Unistrut	:	316L stainless steel
Inlet and outlet louvres	:	3CR12
Fixing, nuts and bolts	:	316L stainless steel

No galvanised mild steel is envisaged for the project and no galvanised mild steel will be accepted unless approved in writing by the Engineer. Where this is approved the mild steel shall be hot-dip galvanized after fabrication, and no cutting or drilling shall be done after galvanising.

The cutting and drilling of gland plates and other steelworks shall be done in the factory. No cutting and drilling shall be on site without the approval of the Engineer.

All busbars and copper control wires in the MCC panel shall be S6 tinned as described in this specification.

Glass fibre switchboards or switchboards manufactured of other composite materials will not be accepted.

**PSE 6.2 Finishing and Painting**

All material shall be degreased, with any sheared edges, welds or surfaces subjected to any form of heat treatment pickled and passivated. If there is any mill scale on the material it shall be non-metallic blast cleaned to SA2½, prior to degreasing.

All galvanizing shall be hot dip zinc galvanized coating done in accordance with SABS ISO 1461:1999.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The hot dip galvanizers shall be permit holders in terms of the SABS Mark Scheme for SABS ISO 1461:1999.

The main electrical equipment shall be painted as follows:

**Motor Control Centre (Not Applicable)**

MCC Assembly frames	:	Light Orange B26
MCC Non-Essential doors	:	Light Orange B26
MCC Essential doors	:	Signal Red A11
PLC Panel doors	:	Cornflower F29
MCC Inside assembly cubicles	:	White
MCC Cubicle back plates	:	White
MCC Assembly plinth	:	Black

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



- b) The prices include for all backfill materials and cable marking danger tape. A provisional quantity of imported backfill has been measured and will not be used and paid without the written approval of the Engineer.
- c) LV power cables shall be installed on floor-mounted cable ladder in cable trenches inside electrical equipment rooms, and on vertical/horizontal structure-mounted cable ladder/tray, mounted to equipment/walkways/handrails, etc.
- d) Cables shall be strapped and spaced to minimize the de-rating of the cables.
- e) LV single-core cables shall be strapped in trefoil formation with stainless steel straps.
- f) Where cable routes as indicated on drawings clash with other services the Contractor shall request clarification from the Engineer in writing.
- g) Cables shall be clearly marked with metal strap cable markers. The Contractor shall propose a final circuit naming convention and issue this proposal to the Engineer and Municipal staff for approval.
- h) Upon installation the contractor shall provide as-built drawings of cable routes and provide surveyed co-ordinate points at every change in direction and on straight runs every 100 metres. A final installed cable schedule will also be provided in segments (for ease of measurement) in order for the Engineer to verify installed cable lengths.

**PSE 11.3 Measurement and Payment**

- a) Prices for the installation of cables in the ground shall include for cable marking tape.
- b) Prices for the installation of cables on cable ladder / tray shall include for fixing clamps and cable ties.
- c) Prices for the termination of cables shall include for all material required for the termination.
- d) Cable lengths given in the Schedule of Quantities are provisional and subject to re-measurement on site. Unit prices shall allow for wastage, as only the installed length will be measured for payment purposes. The Engineers will verify installed cables at the end of the Contract.

**PSE 12 CABLE SUPPORTS**

**PSE 12.1 General**

- a) All main supply cables shall be installed on Heavy-duty cable ladders where the cables are not buried in the ground.
- b) Welded wire mesh cable supports shall be used at the motors where smaller cables and field control cables are installed.
- c) All internal cable supports shall be of hot dipped galvanised steel type and external shall be of hot dipped galvanised steel.
- d) Cutting of cable supports shall be kept to a minimum.
- e) The environment is to be considered corrosive (refer to Technical Data Sheet TDS No.1 SITE CONDITIONS) therefore all brackets, straps, bolts, nuts, washers, fasteners, etc. employed for the cable tray system to be manufactured from 316L stainless steel.

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**PSE 112.2 Installation**

- a) Cable support shall be installed to support all cables around the site. The Contractor shall produce a detailed cable support schedule and layout drawings for all buildings that shall be submitted to the Engineer for checking and approval.
- b) All cable supports shall be supported at the ends of runs and on long runs at least every three (3) metres. Sections of supports must be electrically connected across the joints with 10mm<sup>2</sup> insulated wiring to provide earth continuity.
- c) Cable supports shall be wide enough to accommodate the cables required in terms of this contract plus 15% spare capacity for future additions.
- d) Nylon washers must be employed to prevent galvanic reaction between galvanized steel and 3CR12 (for specialized installation), but careful consideration shall be given to ensure earthing continuity of all metallic items is achieved.

**PSE 12.3 Measurement and Payment**

- a) The price for all cable supports shall include for all unistruts, fixing clamps, bolts, cable straps and cable ties to complete the installation of the cable supports and cables.
- b) Cable supports given in the Schedule of Quantities are provisional and subject to re-measurement on site. Only the installed items/ length will be measured for payment purposes. It shall be noted that not excess cable supports shall be paid and cable supports must not be ordered prior to all cable routing being finalised. It shall be the responsibility of the Contractor to ensure that superfluous cable supports are not ordered.

**PSE 13 CABLE TRENCHES**

**PSE 13.1 General**

- a) Cable trench requirements will be shown on the site layout drawing. All trenches will be inspected by the Engineer prior to backfilling.
- b) Cable route markers shall be installed every 50 m in straight runs and at every change of direction. These shall be of concrete pyramid type, with engraved aluminium label. All cable routes shall furthermore be surveyed as-built and a coordinate provided at every point where the routes change direction.
- c) The trench bottom shall be cleared of all sharp or protruding objects / stones. Soft material shall be installed into the bottom of the trench before lying of the cables. The soft may be backfill material sifted through a 3mm mesh grid. Sifted backfill shall cover the cables from the trench bottom. PVC danger tape shall be added and then the remaining area shall be backfilled using insitu backfill.
- d) The rate for trenching shall include for all backfilling and danger tape. An allowance has been made for imported soil in the bill of quantities in case this is required for backfilling. This imported soil shall not be used unless approved in writing by the Engineer.
- e) Where cables are drawn into sleeves, they shall be drawn according to the manufacturer's recommendations.
- f) Cable routes shall be so planned that the minimum number of crossovers occurs in a cable trench and where signal or control cables are installed in the same trench a minimum clearance distance of 300 mm (between power and communication cables) shall be adhered to.

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- g) For the purpose of this Contract, only three classes of material are considered and all excavated material shall be classified according to the following:

Type (as measured) in this document	General Description	Formal Classification to SABS 1200
Soft excavation	Excavation by pick and shovel in soft soil	Soft Excavation
Intermediate excavation	Possible by use of pneumatic tools and equipment	Intermediate excavation: Boulder excavation Class A Boulder excavation Class B
Hard rock excavation	Removal of material by blasting	Hard Rock excavation

**PSE 14**

**EARTHING**

**PSE 14.1 General**

An earthing system shall be provided for each of the buildings as per the earthing drawings. The earthing systems shall comprise a foundation earth electrode and earth bars installed as indicated. The MCC and DBs shall be supplied with a dedicated earth bar as detailed in the various sections. The equipment shall be connected to the earthing system as per the earthing diagram.

All earthing conductors shall be continuous lengths without joints between terminations. Any damage to the earthing conductors shall be reported in writing to the Engineer and, subject to his approval, shall be repaired by means of exothermic welding. The resistance across a repair joint shall be measured and submitted to the Engineer for approval.

All electrical and electronic equipment, metallic and mechanical structures shall be bonded together to form a holistic earthing system using earthing continuity conductors.

**PSE 14.2 Earth Electrodes**

The earth electrodes shall be a foundation earth comprising 95mm<sup>2</sup> bare copper earth conductors and 2 m long "Copperweld" earth rods buried 1000mm from the building perimeter concrete foundation of the new buildings and 600mm deep, as shown on the earthing drawings. The copper conductors shall be exothermically welded to the exposed head of each rods. The earthing conductors shall be pinned to the bottom of the slot before the slot is filled with clean, compacted building sand.

At each "Copperweld" rod, a 2 m long copper wire tail shall be exothermically welded to the foundation earth conductor. The free end of each tail shall be run to a position outward from the building and arranged for easy retrieval. These positions shall GPS coordinated and clearly marked on the record drawings.

The earth systems shall be connected either to a S6 tinned 50 mm x 10 mm main earth bar or the earth bar in the DBs for smaller installations. The copper bar shall be mounted on moulded epoxy insulators to space the bar 30 mm from the wall. Each insulator shall be provided with two, moulded

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in, 12 mm brass studs. The stud at the base of each insulator shall be screwed into an internally threaded wall anchor (at least 50 mm long) and the copper bar shall be secured to the remaining stud on each insulator with a brass nut, brass washer and cadmium plated spring washer.

The positions of earth rods shall be GPS coordinated after installation. The earth rods shall be installed in accessible positions and preferably not under hard ground cover (e.g., paving, concrete, tar). No earth rods shall be installed under a building or building foundations. No earth cables shall run underneath buildings unless installed in sleeves.

Earth bars shall be installed as indicated. The earth system specified above shall be connected to this earth bar by means of two separate earth conductors from two separate points on the system.

### **PSE 14.3 Soil Resistivity and Earth Electrode Resistance Measurement**

Before the earth electrodes are installed, the Contractor shall measure the soil resistivity at the Site and submit the results to the Engineer. The Engineer will decide if the specified earth electrode need to be improved and, if necessary, will issue a revised specification.

Once the earth electrodes have been installed, their resistance shall be measured, and the Engineer shall immediately be informed if the resistance exceeds 1 ohm. The Engineer will instruct the Contractor if further electrode enhancement is required. The earthing resistance at each building will be submitted to the Engineer for review.

### **PSE 14.4 Earth Continuity Conductors**

Earth continuity conductors shall be provided with all electrical and electronic equipment as shown on the single-line diagram and earthing diagram.

Where no separate earth continuity conductor is shown on the single-line diagram, the intention is that a spare core in the power cable shall serve this function.

### **PSE 14.5 Bonding**

All accessible extraneous conductive parts of electrical equipment/electrically driven equipment shall be bonded in accordance with SANS 10142-1. All cable ladders/ trays/ steel structures etc. shall be properly bonded to earth and joints in the cable support system shall be fitted with a bonding conductor across each joint.

### **PSE 14.6 Lightning Protection**

A lightning protection system shall be installed on all buildings. The lightning protection system shall be installed in accordance with SANS 62305 and SANS 10142-1, and its referenced standards. All equipment used shall be SABS approved, and shall be suited for the corrosive environment it will be installed in. Special care shall be taken when the down conductor installation accessories are selected to ensure that they will endure the environment at the Pump Stations (wind and corrosive conditions).

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- a) Conduiting shall be recessed and include draw wires. Surface conduit shall only be installed upon written instruction from the Engineer. It shall be noted that some conduits have been installed as part of the Civil contract while the buildings we constructed. An allowance has been made for some chasing in of conduit and making good and some surface conduit. The specific installations shall be discussed with the Engineer on site prior to installation. (Chasing vs surface).
- b) Conduiting shall be of the PVC type. Heavy duty galvanised conduit shall only be installed upon written instruction from the Engineer.
- c) Provisional conduit sizes are indicated on the single line diagram. The Contractor shall remain responsible for correctly sizing the conduit, as per SANS 10142-1.
- d) Conduiting shall be provided for lighting, power and electronic services wiring in accordance with the small power drawings and the single-line diagrams. Please note that the electronic services layout drawings will only be provided during construction.
- e) The price for the supply and installation of conduit shall include the conduit, conduit boxes, joints, terminations, draw wires and the chasing and making good for built-in conduit.

**PSE 15.6 Wiring**

- a) The building lighting and switched socket outlet circuits shall be wired with PVC insulated stranded copper conductors as indicated on the single line diagrams.
- b) All wiring shall be drawn into the wireways/ PVC conduits. No wiring that are not installed in wireways will be accepted.

**PSE 15.7 Lighting**

- a) Lighting shall be installed as per the lighting layout drawings and single line diagrams. Luminaires shall be of the type listed in the schedule below or approved equivalent, but priced alternatives may be offered. If alternatives are offered, the Contractor shall submit samples of both the preferred and alternative luminaires, together with photometric data, for evaluation by the Engineer.

**PSE 15.8 Switch Socket Outlets and Isolators**

The installation of the switch socket outlets shall be in accordance with the power layout drawings:

- a) Standard 16A 3-pin switched socket outlets shall be installed.
- b) Switched socket outlets (SSOs) shall be flush mounted in 100 mm x 100 mm outlet boxes mounted 300 mm above the finished floor level. All socket covers shall be off white.
- c) IP65 switched socket outlets shall be installed in all industrial areas as indicated on the drawings.
- d) Normal switched socket outlets shall be fitted with 30mA earth leakage protection.
- e) Dedicated switched socket outlets shall not have any earth leakage protection.

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**PSE 16**

**AREA AND ROAD LIGHTING**

**PSE 16.1 General**

- a) The area lighting will be installed, as indicated. These locations are indicative. Final GPS coordinated positions will be determined during construction.
- b) After the installation of the area lights, the Contractor shall arrange for surveying of the lighting levels by actual measurement on all access routes as well as where night-time task activities are performed.

The Contractor shall produce a lighting level survey drawing for the Engineer to review. Level shall be surveyed at 0°, 90°, 180° and 270° degrees at increments of 5m from 0m to 50m. At all locations where night-time tasks activities are performed, and which are inadequately lit after installation of the area lighting, additional task lighting shall be provided to achieve the lighting levels as specified in the OHS Act Regulations. Provisional sums have been allowed for this in the tender.

- c) Pole dressings (circuit breakers and wiring) shall be included in the supply price for the area lighting poles.

**PSE 17**

**BUILDING TRENCH COVERS**

**PSE 17.1 General**

- a) Building trench covers shall be supplied and installed as part of this Contract. The building trench covers shall be manufactured of 38 mm fibreglass reinforced plastic grating.
- b) The trench covers shall be coloured grey.
- c) Cutting of the trench covers where required shall be carefully planned. Where cutting of the trench covers are not to the satisfaction of the Engineer the covers shall be manufactured again.
- d) An estimated quantity of cable trench covers has been allowed in the schedule of quantities. The Contractor shall measure the final quantity of trench covering required for installation prior to ordering. The Contractor shall note that only the net installed trench covers shall be measured for payment and wastage shall be for the Contractor's account.
- e) The trench covers alignment shall be checked as part of the final taking over, no unstable trench covers will be accepted.
- f) The rate for the trench covers shall include for all fixings (C-type, M-type, bottoms clips), clamps and other materials required for installation purposed. All clamps and fixings shall be manufactured of 316L stainless steel.

**PSE 18**

**MEASUREMENT AND PAYMENT**

**PSE 18.1 General**

Payment for particular items scheduled shall conform to the payment clauses of the Conditions of Contract as amended by the following:

- a) Unless scheduled separately, the tendered rates or sums shall cover the cost of drawings and instructions as required.

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- b) The tendered rates or sums shall cover the costs of anything not specially mentioned but which an experienced contractor can reasonably foresee as being required, (e.g., all ancillaries, including all bolts, fastenings and brackets, safety guards and any work or material or equipment required for the proper execution and installation of such apparatus and equipment, piping, valves, gauges, instruments, either severally or collectively in complete working order), to enable the apparatus and equipment to be installed and/or function safely and correctly as specified. No claims whatsoever for extras will be allowed on the grounds that a necessary piece of equipment or a part thereof is not specifically mentioned in the Schedule of Quantities.
- c) The Contractor will not be entitled to any payment until the three copies of the Progress Statement have been submitted by him to the Engineer. The Statement shall contain an invoice of all items as scheduled in the Schedule of Quantities and reflect the progress made on each item. If a pro forma is enclosed in the Contract Documents the Contractor's Progress Statement shall conform to it. If there is no pro forma in the document the form of the Progress Statement used by the Contract will be subject to the approval of the Engineer.

**PSI 18.2 Preliminary and general items**

**Unit:..... Sum**

Where provision is made in the Schedule of Quantities for Preliminary and General items, the sum(s) tendered shall cover the cost of all responsibilities specified in the Specifications. In interim certificates, payment for Preliminary and General Items will be made, unless otherwise provided for, as a percentage of the tendered lump sum(s) pro rata to the value of work certified for payment.

Where no provision is made in the Schedule of Quantities for Preliminary and General Items the rates tendered for the scheduled items shall cover the cost of all responsibilities specified in the Specification together with all responsibilities.

**PSE 18.3 Supply**

**Unit:.....No or Sum**

The tendered rate or sum shall cover the cost for supply of the goods, testing as required, provision of test certificates certifying compliance of the goods with SABS, IEC, ISO or BS standards, corrosion protection, if designated and not scheduled separately, and supply of all special tools and keys.

Payment for supply of the relevant equipment will not be effected until the draft copies the following have been submitted:

- a) Drawings of the equipment detailing all part numbers and materials, and, if required by the Engineer, detailed drawings showing the complete installation.
- b) A complete spare list.

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- c) A lubrication and maintenance schedule showing all maintenance and lubrication operations, their recommended frequency and the grades of lubricant required.
- d) A maintenance brochure describing all maintenance, adjustment and replacement procedures.
- e) Operating manual describing the operation of the equipment with performance curves where applicable.
- f) A manual detailing all dismantling and reassembly procedures.
- g) A manual detailing the maintenance procedure for the corrosion protection painting systems.

**PSE 18.4 Delivery**

**Unit:.....No or Sum**

The tendered rate or sum shall cover the cost of delivery of the goods and offloading at the delivery point stated in the Project Specification.

Where a rate or sum has been tendered for delivery of goods which are then stored as provided, the Engineer at his sole discretion may certify an amount for partial or full payment of the relevant item, if in the Engineer's opinion such a payment is justified by reason of the transportation of such goods to their place of storage.

**PSE 18.5 Installation**

**Unit:.....No or Sum**

The tendered rate or sum shall cover the cost of all necessary site oriented activities such as handling at the Site, storing, sorting, erecting, all painting, testing and commissioning (unless scheduled separately), including all costs of transport of personnel and their erection gear to Site.

**PSE 18.6 Testing**

**Unit:.....No or Sum**

The tendered rate or sum shall cover the cost of testing as specified including all costs of transport to and from Site, and Site accommodation of personnel and their gear.

**PSE 12.8 Commissioning (where scheduled separately)**

**Unit:.....No or Sum**

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The tendered rate or sum shall cover the cost of commissioning as below, including all costs of transport to and from the Site, and Site accommodation of personnel and their gear.

**Commissioning:** The Contractor shall be responsible for commissioning the equipment which shall comprise putting it into operation, calibration, proper adjustment of the equipment, and thoroughly running in the whole of the installation after completion under all sections of the Contract. The Contractor shall also train the Employer's staff regarding the operation and maintenance of the equipment. When all these operations have been carried out and, in the opinion of the Engineer, the installation is operating satisfactorily it will be considered to have been commissioned.

**PSE 18.8 Servicing visits**

**Unit:.....Sum or No of Visits**

The tendered rate or sum shall exclude the cost of providing lubricants but shall cover the cost of servicing visits and operations as specified below. Payment of 95% of the tendered amount will become due monthly on a pro rata basis or after each visit, as the case may be. The remaining 5% will be regarded as Retention Money and paid at the end of the Defects Liability Period.

**Servicing:** Without limiting in any way the liability of the Contractor for remedying defects, the Contractor shall make regular quarterly visits to the installation during the Defects Liability Period to service and supervise the operation and maintenance of the equipment. During these visits he shall make all adjustments and do everything necessary to ensure the proper running of the equipment.

After each servicing visit to the Site the Contractor shall submit to the Engineer a report on:

- a) the condition of the equipment and the servicing work carried out,
- b) any adjustments which may have been made,
- c) any further instruction to the operator, and
- d) the degree to which the operator has become conversant with the equipment.

The last servicing visit shall be carried out during the last week of the Defects Liability Period during which visit the Contractor shall carry out full checks on the equipment to ensure that the alignment, clearances and any other settings are correct and he shall carry out any adjustments necessary.

The Final Certificate will not be issued until the last servicing visit has been carried out to the satisfaction of the Engineer.

**PSE 18.9 Tools and spares**

**Unit:.....Sum**

The cost of special tools and keys shall be covered by the tendered rate or price for the supply of the relevant equipment. Payment for spares will be made at the price tendered in the Spares

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Schedule which price shall cover the cost of supply, crating and labelling where applicable, and delivery to the Site of the relevant items.

**PSE 18.10 Interim storage**

**Unit:.....Month**

When interim storage is to be paid, the minimum period measured will be three months. The tendered rate shall cover the cost of providing storage in the ordered or approved store, protecting and maintaining the goods in storage, handling the goods in and out of the said store, and labelling and packing.

No separate payment for storage will be made where normal delivery is effected, nor where storage is ordered on the following terms:

In the event of the Engineer not being satisfied with the provisions for storage provided by the Contractor on Site, he may order all goods and erection equipment to be delivered to the Employer's stores and stored therein at the Contractor's risk and cost.

Whether goods are stored at the Employer's stores on the order of the Engineer or on the request of the Contractor, the Contractor shall provide all handling and transport to move the goods and erection equipment to the Site of the Works when required.

**PSE 18.11 Insurance for goods stored.**

**Unit:.....Month**

When insurance for goods stored is to be paid, the minimum period measured will be three months. The tendered rate shall cover the cost of insuring the goods while in storage.

**PSE 18.12 Additional visits to Site**

Additional visits to Site ordered by the Engineer (other than visits required as a result of malfunctioning of, or defects in the Contractor's materials or workmanship, or as a result of circumstances for which the Contractor is responsible in terms of the Contract) will be scheduled as:

a) **Transport.....Unit: No of Visits**

The tendered rate for transport shall cover the total cost of transporting personnel and equipment to and from Site.

b) **Site operations.....Unit: Day**

The tendered rate for site operations shall cover the full daily cost of the wages, equipment, accommodation and local transport.

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**PSI 5 MATERIALS, FINISHING AND PAINTING**

**PSI 5.1 General**

Materials provided shall be fit for purpose for the local site conditions.

The materials of construction shall be 3CR12 materials and corrosion protected.

Sound dampening must be supplied if noise levels within equipment and control rooms are above 85dBa.

All fasteners shall be 316L stainless steel materials.

All PLC, HMI and instrument enclosures shall be of 3CR12 materials and corrosion protected as described in the Standard Specification.

All electronic components shall be conformal coated including IT related equipment such as industrial Ethernet switches, firewalls etc.

ALL electronic cards and components shall be conformal coated. The conformal coating shall improve the electronics insulation qualities and resistance to condensation, dust and chemical corrosion.

All panel wiring shall be tinned silicon insulated.

**PSI 5.2 Fixing of Materials**

The installation point of all cables, instrumentation and panels shall be done using the final civil and mechanical coordinated design drawings in order to prevent equipment clashes.

Materials shall be fixed in accordance with Standard Specification. All fasteners shall be hot-dip galvanized or stainless steel. No electro-plated or zinc plated fasteners will be allowed.

Fixing to structures and concrete shall be effected by stainless steel nuts and bolts or stainless steel threaded rod used in conjunction with an approved chemical anchor.

Where there is a possibility of electro-galvanic reaction (e.g. between stainless steel and galvanizing) the Contractor shall make use of suitable insulating washers of rubber, Teflon or similar material.

**PSI 5.3 Finishing and Painting**

Finishing and painting shall be in accordance with Standard Specification. All 3CR12 material shall be degreased, with any sheared edges, welds or surfaces subjected to any form of heat treatment pickled and passivated. If there is any mill scale on the material, the 3CR12 shall be non-metallic blast cleaned to Sa2½, prior to degreasing.

Control and Instrumentation / panels / junction boxes shall be painted as follows:

A primer coat of Strontium Chromate Epoxy Primer or approved alternative shall be applied to a minimum dry film thickness (DFT) of 30 µm. A final coat of Epoxy / Polyester powder coating shall

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be applied by electrostatic spray and baked in accordance with the manufacturer's specification. This final coat shall be in the colour as specified, with a minimum DFT of 50 µm, but not more than 100 µm.

The suppliers or manufacturers shall furnish paint thickness test certificates for all materials that are epoxy powder coated.

All galvanizing shall be hot dip zinc galvanized coating done and tested in accordance with SABS ISO 1461:1999.

The hot dip galvanizers shall be permit holders in terms of the SABS Mark Scheme for SABS ISO 1461:1999.

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## **PSI 6 CONTROL AND INSTRUMENTATION CABLES**

### **PSI 6.1 General**

The Contractor shall develop the final cable layout and cable routing drawings with associated cable schedules for approval by the Engineer.

The final designs shall be co-ordinated, by the Contractor who shall take into consideration all civil works, mechanical and electrical equipment.

No cables shall be procured until the final cable schedule has been approved by the Engineer.

### **PSI 6.2 Control Cables**

Multicore control cables shall be provided as required for discrete control circuitry associated with all controlled equipment which are NOT connected to fieldbus systems.

Control cables shall be 600 / 1000V rated multicore with minimum 1mm<sup>2</sup> copper conductors, PVC insulated cables with galvanised Steel Wire Armouring and PVC serving and terminated using IP65 glands.

Where cables are installed in conduit or trunking within buildings and panels, unarmoured cable may be used.

### **PSI 6.3 Instrumentation Cables**

Field instrumentation NOT connected to fieldbus networks shall be connected via multipair instrumentation cables provided as required for all current loop instrumentation signals linked to the PLC and RIO equipment.

Where the instrumentation is supplied with integral cables, instrument junction boxes shall be provided in order to connect them to multipair cables back to the PLC RIO Panels.

Instrumentation cables shall be 300V rated twisted pair, with minimum 1mm<sup>2</sup> copper conductors, individually and overall screened, PVC-insulated with galvanised Steel Wire Armouring, PVC serving and terminated using IP65 glands.

Where cables are installed in conduit or trunking, unarmoured cable may be used.

Field instrumentation connected to fieldbus networks shall be connected via fit for purpose data cables approved for that particular type of fieldbus.

### **PSI 6.4 Instrument Power Cables**

Instrument power cables shall be 600 / 1000V rated 3 core 2.5mm<sup>2</sup> copper conductors, PVC insulated cables with SWA armouring. Where cables are installed in conduit or trunking unarmoured cable may be used.

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**PSI 6.5 Data Network Cables**

Industrial Ethernet cables for data networks within enclosures and conduits shall comply with the following specification:

<b>Attribute:</b>	<b>Specification:</b>
Compliance	TIA 568
Cable type	Solid bare copper conductors, twisted pairs
No. of pairs	2
Outer insulation	Aluminium foil
Drain wire	TC- tinned copper
Out jacket	PVC, oil resistant
Connector	IP 20, RJ45, straight, industrial connector

All buried cables installed within trenches and outdoor environments shall be SWA.

**PSI 6.6 Fieldbus Cables**

Approved industrial Fieldbus cables for use within enclosures and conduits shall be provided for the PLC to IED, PLC to Remote I/O, PLC to Standby Generator and PLC to Power Meter as follows:

<b>Attribute:</b>	<b>Specification:</b>
Compliance	IEC 61158
Cable type	Continuous armour multi-conductor
No. of pairs	One
Core size	>0.3255mm <sup>2</sup> cross section area – bare copper
Outer shield	Aluminium foil
Outer jacket	PVC
Armour	Continuously corrugated, aluminium

All buried cables installed within trenches and outdoor environments shall be SWA.

**PSI 6.7 Installation**

Control and instrument cables shall be installed on floor and/or wall-mounted heavy duty HDG (Hot Dip Galvanized) cable ladder in cable trenches inside electrical equipment rooms, and on vertical/horizontal structure-mounted HDG cable ladder to equipment mounted external to buildings.

All cables shall be strapped with UV resistant PVC cable ties.

All cable routes indicated on the Engineer’s drawings are provisional and the final locations and routes shall be determined by the Contractor and confirmed with the Engineer on site before cables are installed.

Equipment integral cables shall be connected to their signal or data cables via an IP68 instrument junction box fitted with terminals and complete with adequately sized cable compression gland.

Individual instrument cables and integral cables shall be installed on HDG angle iron from the instrument to a major cable raceway.

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**Cable glands for SWA cables shall comply with the following:**

- a) Comply with SANS 1212 for mechanical cable glands
- b) Fully adjustable to accommodate the required armour wire
- c) Brass and nickel plated construction
- d) Loose cone and loose cone bush components
- e) Incorporate a weatherproof shroud
- f) Be supplied complete with brass or nickel-plated steel locknuts
- g) IP 65 with inner seals

**Cable glands for unarmoured cables shall comply with the following:**

- a) Comply with SANS 1213 for mechanical cable glands
- b) Brass and nickel plated construction
- c) Be supplied complete with brass or nickel-plated steel locknuts
- d) IP 65 with inner seals

Where instrumentation is hardwired to the PLC or Remote IO Panel, IP65 rated instrumentation junction boxes shall be provided for connecting integral control and instrumentation cables of equipment / instrumentation to the I/O. The junction boxes shall comply with the following:

- a) Slotted mounting lugs for installation
- b) Manufactured out of non-corrosive, toughened plastic
- c) Raised dome lid for easy access (Transparent)
- d) Encapsulated internal earth (continuity between entries)
- e) 4 x threaded entries and supplied with 2 blanking plugs
- f) Suitable to accommodate armoured or unarmoured cables
- g) IP65 rated glands with waterproof shrouds
- h) Terminal rail with terminal headers and end stops

The integral cables shall be connecting to conventional cables via terminal strips in the junction boxes.

All loop drawings shall be prepared by the Contractor as per typical drawing issued.

**PSI 6.8 Measurement and Payment**

Prices for cable trench excavations and the laying of cables shall be determined in accordance with the Standard Specifications and the following:

Prices for the installation of cables in the ground shall include for cable marking tape.

Prices for the installation of cables on cable ladder / tray shall include for all fixing clamps and cable ties.

Prices for the termination of copper cables shall include for all material required for the termination such as terminals, lugs, labels, droppers, heat shrink, terminals, barriers etc.

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Prices for the termination of fibre optic cables shall include for all material required for the termination such as OTDR testing, patch panels, fly leads, splices, optical connectors, link testing splices etc.

Prices for the termination of Ethernet cables shall include for all material required for the termination such patch panels, connectors, link testing etc.

Prices for the supply and installation of enclosures shall include for all material required to produce a complete panel such as mounting stands, brackets, terminals, end plates, end stops, back plates, power supplies, IP rating testing etc.

Prices for the fieldbus network and all related components with MCC's shall be included in the price of the MCC. This shall include the production of test-sets and all testing.

Cable lengths given in the Schedule of Quantities are provisional and subject to re- measurement on site. Unit prices shall allow for wastage, as only the actual installed length will be measured for payment purposes.

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**C3.5 MANAGEMENT**

**C3.5.1 Management of the works**

**C3.5.1.1 Applicable Specifications**

The Standard for Civil Engineering Construction SANS 1200 published by the South African Bureau of Standards and referred to as the "Standard Specifications" shall be applicable to this project.

All relevant electrical specifications shall be applicable to this project:

**C3.5.1.2 Concurrent construction contracts**

The Contractor's attention is drawn to the fact that there might be other contiguous works will be executed concurrently by independent Contractor's under separate contracts in the vicinity of the Site.

The other Works which will be in progress or will come into operation on or adjacent to the Site of the Works during the progress or tenancy of this contract are likely to include, but are not limited to the following:

- a) (Other Project Description if applicable) .....
- b) (Other Project Description if applicable) .....

The Contractor shall ensure that neither his operations nor those of his sub-Contractors nor the activities of his employees shall interfere with or of the Employer or of other Contractors and he shall indemnify the Employer against all claims arising through default of this requirement.

The Contractor shall hand over portions of the Site of the Works (whether completed or not), or completed portion of the Works, to these Contractors when required by the Employer or detailed elsewhere in this document. The Contractor shall cause no interference with or delays in the execution of these contiguous contracts.

No discounts or commission for the Contractor is allowed on these contracts, and it will be assumed that he has fully allowed in the Contract Price for the presence of these Contractors on Site. Any service rendered or assistance given by the Contractor to these Contractors, save as are provided for in the Project Specifications, shall be for their accounts only since the Employer shall in no way be responsible to the Contractor for any payments in this respect.

The Contractor shall protect all known existing services as well as all work being carried out and structures being erected on the Site by other Contractor. Any damage caused to their services or structures, or any obstructions or hindrance caused to other Contractors by the Contractor, and all claims arising there from, will be sole responsibility of the Contractor.

All repair work shall be carried out at the Contractor's expense to the entire satisfaction of the Engineer.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

The same obligations shall be imposed on the Employer and on other Contracts in respect of the Works being executed under this Contract.

**C3.5.1.3 Contractor’s Project Management Plan**

The Contractor is required to prepare and submit a project management plan for the Construction. The particular Contents that should be included in the Contractor’s Project Management Plan are listed below:

- **Project structure and agreements**

The Contractor shall indicate how responsibility for the various work packages will be divided between joint ventures partners (where applicable) and sub-Contractors.

A contract organogram shall be provided showing work appointment and project management responsibilities. The particular division of work shall match the establishment capabilities and capacities of each particular partners of Sub-Contractor.

- **Plant, materials and equipment**

The Contractor shall prepare s Plant and Materials procurement plan, indicating the source of key Plant and Materials designated for inclusion in the Works, and demonstration that such Plant and Materials have proven track record of successful maintenance support in South Africa.

The Contractor shall also prepare a plan of Contractor’s Equipment, indicating the sources and details of construction equipment planned for use on the Contract and based on the Contractor’s particular approach.

- **Staffing plan**

The Contractor shall prepare a detailed staffing plan showing in an organogram all key members of the Contractor’s Personnel, proving a detailed CV for each such key position. The Contractor shall also show numbers and source of all non-key staff and indicating the particular approach.

- **Method statement**

The Contractor shall clearly describe the overall methodology proposed for construction of the Works and include particular method statement for each work discipline include in the Works.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**C3.5.1.4 Construction Programme**

The Contractor shall submit together with his tender, a proposed construction programme and schedule, which shall be updated and finalized within the period stated in the Contract Data a suitable and realistic construction programme for the consideration of the Engineer.

The programme shall be in the form of a Gantt chart and shall include the following details:

- A work breakdown structure (WBS), identifying the major activities and group of activities.
- For each activity and/or group of activities, further details shall be provided with regard to the scheduled and end dates of individual activities.
- The (F/S; S/S; F/F and association lead and lag) linkages between activities shall be clearly indicated and the logical network upon which the programme is based shall be separately submitted to the engineer if requested. Any constraints shall be classified as being time-related or resource-related.
- The critical path(s) shall be clearly indicated and floats on non-critical activities shall be shown.
- The Contractor shall indicate the working hours per day, night, week and month allowed for in the programme.
- Where relevant the Contractor shall state the production rates for key activities, e.g. earthworks, etc.
- The Contractor shall submit together with his tender, a detailed method statement of how he plans to execute the works, taking into account the inter-relationship of the various supply and drainage areas per water network and sewer branch pipeline layouts.

Together with the programme as detailed above the Contractor shall submit to the engineer as cash flow projection, indicating projected monthly invoice amounts. The cash flow projection shall be updated at monthly intervals to reflect actual payments to date and anticipated further payments.

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity that has fallen behind. The updated programme shall be submitted to the Engineer at least two days prior to the monthly meetings.

If the programme has to be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing how he intends to regain lost time in order to ensure completion of the Works within the time for completion or any granted extension of time. Ant proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on site, or by using the available labour and plant in a more efficient manner.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Failure on the part of the Contractor to submit the programme or to work according to the programme or revised programme shall be sufficient reason for the Engineer to take steps as provided in the General Conditions of Contract.

The approval by the Engineer of any programme shall have no contractual significance other than the Engineer will be satisfied that the work is carried out according to such programme and that the Contractor undertakes to carry out the

work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme if required by circumstances.

**C3.5.1.5 Quality Assurance**

The Contractor shall institute the quality management plan (QMP), as well as institute a quality management assurance system (QMAS) and provide experienced personnel as well as all the necessary transport, instruments and equipment, to ensure adequate supervision, positive control and testing of the work at all times in order to comply with the minimum standard specifications and requirements. The Contractor shall deliver to the Engineer, for his consideration, all the required QMP and QMAS quality assurance programme prior to the Contractor's appointment of any suppliers or commencement of the Works. Failure to comply with these requirements shall be just cause for the Engineer to order supervision of the Works without additional remuneration or for him to recommend termination to the Employer in terms of the Conditions of the Contract.

The Contractor shall do at least the quality control test at the frequencies specified in SANS and THM for the required Scope of Work. If the scale of the works, construction method or any other circumstances dictates, the Contractor shall do more tests when required for quality assurance purposes.

The Contractor shall keep systematic records of the test results and all worksheets related thereto. All test results obtained by the Contractor in the course of his process requesting inspection of the relevant portions of the Works. Any request for inspection shall be submitted on the prescribed forms.

The Employer is at liberty to carry out such tests as he deems necessary to determine compliance with the contract requirements and will make available the results of all tests to the Contractor.

Acceptance control, record keeping, and payments certificates shall be done in accordance with the Engineer's standards system except if the Engineer approves that the Contractor's QMP and standard QMAS system may be used.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**C3.5.1.6 Site administration**

• **Daily Site Diary**

The daily site diary shall be kept to date by the Contractor’s Site Agent and will be signed on a daily basis by the Engineer’s Representative.

• **Information in Respect of Plant**

Information relating to plant on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of construction plant kept on the Site, full particulars given each day of the month. Distinction shall be made between plant in working orders and plant out of order. Such inventory shall be submitted by the first day of the month following the month to be reported.

• **Information in Respect of Employees**

Information relating to labour and management on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of Supervisory staff, labour employed (own and local labour) by category, and sub-Contractors (both local and imported) for each day of the month. Such return shall be submitted by the first day of the month following the month to be reported.

• **Rainfall Records**

Rainfall records for the period of construction shall be taken on Site and record in the daily site diary. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fences plus gate, padlock and keys at each measuring station, all at his own costs. The Engineer or his Representative shall take and record the daily rainfall readings. The Contractor shall be permitted to attend these readings, in the company of the Engineer’s Representative. Access to the measuring gauge(s) shall at all times be under the Engineer’s control.

**C3.5.1.7 Site instructions**

Site instructions by the Engineer, addressed to the Contractor at his office on the Site will be numbered consecutively and will be deemed to have been received by the notice of the Engineer in writing immediately.

**C3.5.1.8 Site Meetings**

The Contractor and his authorized representative shall attend all meetings held on the Site with Employer and the professional team at dates and time to be determined by the Engineer. Such meeting will be held to evaluate the progress of the Contract,

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

and to discuss matters pertaining to the Contract which any of the parties represented may wish to rise. It is not the intentions to discuss day-to-day technical matters at such meetings.

**C3.5.1.9 Payment Certificates**

Monthly Progress Payment Certificates shall be submitted to the Engineer's Representative on Site not later than the 15<sup>th</sup> of each month (or on the last working day prior to this date) in order to allow for checking each and reconciliation of all quantities, rates, extension and additions in the certificate. Each progress payment certificate shall include work executed or reasonable expected to be executed up to 30<sup>th</sup> day of the specific month. The Engineer's Representative shall have a period of five (5) calendar days to view the draft certificate in collaboration with the Contractor. All quantity calculations and certificates submitted by the Contractor for checking shall be in accordance with the Engineer's standards site administration forms and formats.

Upon agreement by the Engineer's Representative by not later than the 20<sup>th</sup> of each month, the certificate shall be submitted by the Contractor in a typed form in accordance with the prescribed format, and with the correct spelling, to the Engineer by no later than the 20<sup>th</sup> of each month (or on the first working day thereafter), together with four additional copies, for certificates.

Where days' work has been instructed by the Engineer, the Contractor shall submit the return to the Engineer for signature and approval within twenty-four (24) hours of the end of the working day on which the work was executed. Day work returns shall be submitted on forms according to the Engineer's standard format. Failure to comply with terms of this clause will result in non-payment for such day works.

**C3.5.1.10 Drawings, Operations and maintenance Manuals**

All the information in possession of the Contractor that is required by the Engineer's Representative in order to complete the As-built drawings and to prepare a close-out report for the Employer must be submitted before a certificate of completion is issued for the works. Similarly, the Contractor will be required to submit full details of all materials/ fittings/ equipment in a maintenance procedure (where applicable) related thereto, for incorporation in the overall operation and maintenance manual for the completed works prior to issuing of the certificate of completion of the Works.

Only figured dimensions, levels and co-ordinates on the Drawings may be used in the interpretation thereof, and the Drawings shall not be scaled unless the Contractor is specifically instructed by the Engineer in writing. The Contractor shall notify the Engineer in writing of any lack of information or conflict in the information on the Drawings. The Engineer will upon written request provide any dimensions, levels and co-ordinates that may have been omitted from the Drawings.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**C3.5.2 Management of the Environment**

**C3.5.2.1 The Environmental Management Plan (EMP)**

The Contractor shall comply with the conditions of the Record of Decision and the Environmental Management Plan if any. (N/A)

**C3.5.2.2 Environmental Authorization**

The Contractor shall comply with the conditions of the Environmental Authorization - Record of Decision if any. (N/A)

**C3.5.3 Management of Health and Safety on site**

The Contractor shall comply with the Occupational Health and Safety (OHS) Agreement included in Section C1.2 – Contract Data

**C3.5.3.1 Health and Safety Specifications**

The Contractor shall comply with the requirements of the Occupational Health and Safety Specifications of the Municipality.

**C3.5.3.2 Health and Safety Plan**

The Contractor shall use the Occupational Health and Safety Specifications of the Municipality to develop and OHS Plan for the approval of the Employer/ Employer’s Safety Agent. Once the OHS Plan is approved, it shall be included in OHS File on site for regular monitoring.

**C3.5.3.3 Covid-19 OHS Specifications**

On the 15th of March 2020, the Minister of Co-Operative Governance and Traditional Affairs, designated under Section 3 of the Disaster Management Act , 2002 (Act No. 57 of 2002), published in Government Gazette No. 43096 the Regulations, setting out the necessary steps to prevent an escalation of the disaster or to alleviate, contain and minimise the effects of the disaster.

In addition, the Department of Employment and Labour has appealed to employers to use the prescriptions of the Occupational Health and Safety (OHS) Act of 1993 in governing workplaces in relation to COVID–19.

The Contractor shall comply with the requirements of the specification.

**C3.5.3.4 Covid-19 Risk Assessment**

The purpose of this Risk Assessment is to:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- Identify the health hazards that employees may be exposed to while performing their work,
- Evaluate the initial risk, control measures currently used and the residual risk,
- Recommend control measures where applicable and
- Compile a Risk Assessment to manage COVID-19 in the workplace and on site,
- Produce a Risk Assessment in accordance with the requirements of the Disaster Management Act, 2002. Regulations issued in terms of Section 27(2) of the Disaster Management Act, 2002 (As amended on the 15th of March 2020),
- Ensure the Safety of all personnel involved with the activity,
- Put in place a way of communication to all personnel involved with the activity

**C3.5.3.5 Covid-19 OHS Checklists**

This checklist will assist the contractor to implement health and hygiene measures at your workplace and do a review of your facilities concerning Covid-19.

**C3.6 Geotechnical Report**

Available on request from Engineers

**C3.7 Drainage Report**

Available on request from Engineers

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Contractor

Witness 1

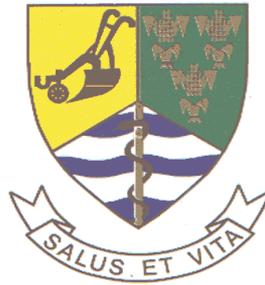
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

**CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION  
(PHASE 1)**

**C4 SITE INFORMATION**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**C4.1 Site Inspection**

The Bidder shall familiarize him/herself on the nature of the site and inspect the site if necessary.

**C4.2 Site Location**

Bela Bela Local Municipality is located in the Waterburg District Municipality of Limpopo Province. The substation construction site is situated along the R516 on the following GPS Coordinates 24°53'36.5"S, 28°18'34.9"E. 2.4km from Bela Bela Local Municipality Offices



Contractor

Witness 1

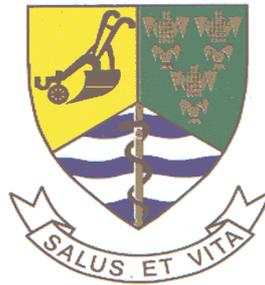
Witness 2

Employer

Witness 1

Witness 2

# BELA-BELA LOCAL MUNICIPALITY



**BID NO: 9/3/1/394**

## CONSTRUCTION OF 132/11KV 2 X 20MVA BELA BELA SUBSTATION (PHASE 1)

### **C5 DRAWINGS**

#### C5.1 Contract Drawings

<b>CIVIL ENGINEERING:</b>	
C 5.1.1	SITE PLAN: GENERAL LAYOUT
C 5.1.2	SITE PLAN: BASE LAYOUT
C 5.1.3	SITE PLAN: ACCESS ROAD LAYOUT A
C 5.1.4	SITE PLAN: ACCESS ROAD LAYOUT B
C 5.1.5	SITE PLAN: SUB-SOIL LAYOUT
C 5.1.6	SITE PLAN: SUB-SOIL PUMP SUMP
C 5.1.7	SITE PLAN: STORM WATER SPILLING BASIN
C 5.1.8	OIL DAM – ELECTRIC PUMP AND OUTLET SUMP
C 5.1.9	OIL DAM – CONCRETE COVER AND TRAP DOOR
C 5.1.10	TWO WINDING TRANSFORMER PLINTH, SLIPWAY AND DRAINAGE & OIL CATCHMENT AREA
C 5.1.11	STORMWATER LAYOUT AND LEVELS
C 5.1.12	TUBULAR SUPPORT FOUNDATIONS DETAILS – 132KV CIRCUIT BREAKER
C 5.1.13	LATTICE SUPPORT FOUNDATIONS DETAILS – 132KV ISOLATOR
C 5.1.14	LATTICE SUPPORT FOUNDATIONS DETAILS – MEDIUM EQUIPMENT
C 5.1.15	LATTICE SUPPORT FOUNDATIONS DETAILS – MV CABLE SEALING END
C 5.1.16	LATTICE SUPPORT FOUNDATIONS DETAILS – 21m LIGHTNING MAST
C 5.1.17	LATTICE SUPPORT FOUNDATIONS DETAILS – STEEL FIRE BARRIER
<b>ELECTRICAL ENGINEERING:</b>	
C 5.1.18	ELECTRIC DIAGRAM - OUTDOOR
C 5.1.19	ELECTRIC DIAGRAM - INDOOR
C 5.1.20	GENERAL ARRANGEMENT
C 5.1.21	SINGLE LINE DIAGRAM
C 5.1.22	PROTECTION DIAGRAM

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Contractor

Witness 1

Witness 2

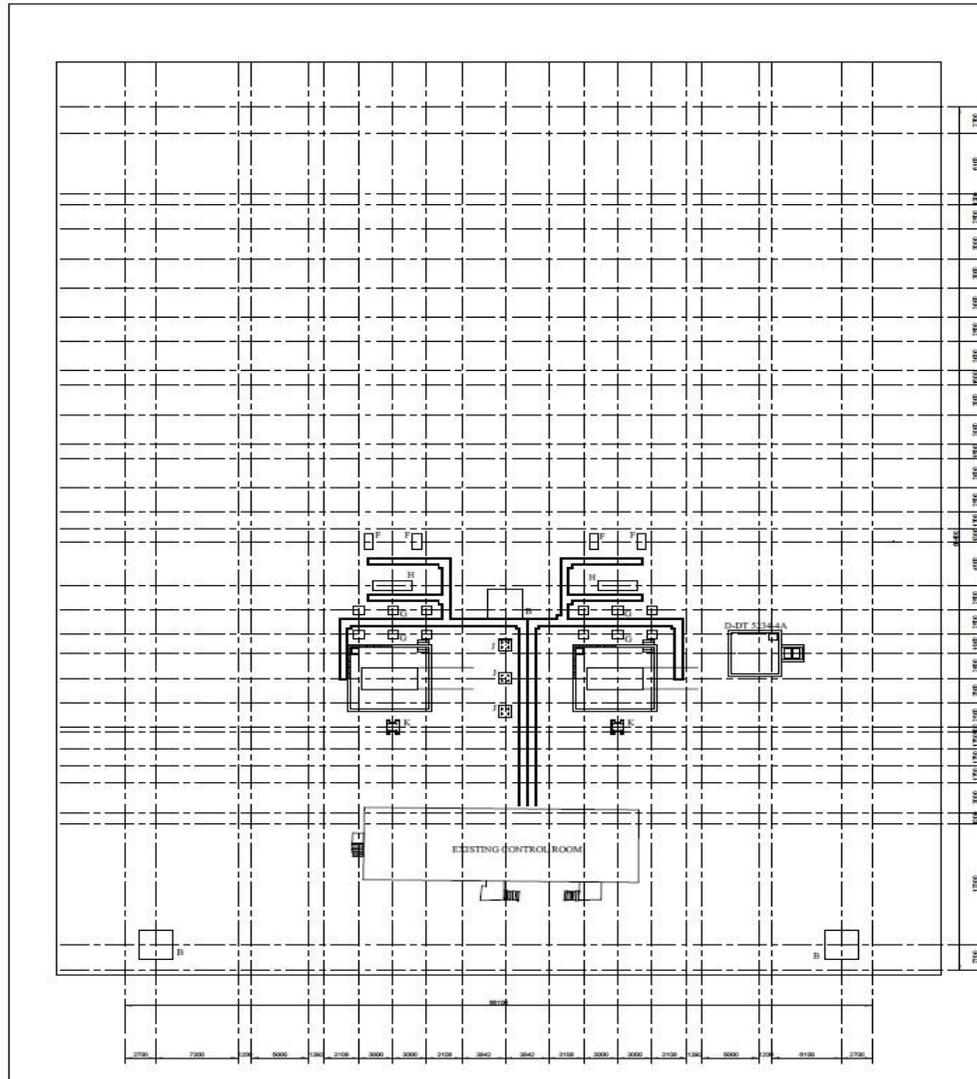
Employer

Witness 1

Witness 2



**C5.1.2 SITE PLAN: BASE LAYOUT**



ALL BASES MUST BE IN ACCORDANCE WITH DRG BBEM CIVIL

B	21m LIGHTNING FOUNDATION	D-DT 5213-1B
F	132 KV ISOLATOR FOUNDATION	D-DT 5202-1A
G	MEDIUM EQUIPMENT FOUNDATION (2.5m)	D-DT 5206-1A
H	132 KV CIRCUIT BREAKER FOUNDATION	D-DT 5200-1B
I	FIRE WALL FOUNDATION	D-DT 5218-1A
K	CABLE END SUPPORT FOUNDATION	D-DT 5213-1A

**NOTE TO STEEL FIXER:**  
 1. PLEASE INSERT SPECIFIED NUMBER BARS  
 2. SPACING TO BE USED AS REFERENCE  
 (ONLY INDICATES MAX. SPACING)  
 3. IF 30 mm SPACERS ARE USED, THEY ARE TO BE INSTALLED ON 2nd BAR FROM THE BOTTOM OF SLAB

NO TIMBER PROPS HIGHER THAN 3 m WILL BE ALLOWED  
 ONLY WELDERS CERTIFIED AND TESTED WITHIN PAST 12 MONTHS WILL BE ACCEPTED

**DESIGN REQUIREMENTS**

Site ground bearing capacity - 100 kPa  
 Superimposed loading on first floor slab - 1.5 kPa

Concrete cube strength at 28 days  
 Reinforcing - 33 MPa  
 Foundation - 20 MPa  
 Columns - 25 MPa  
 Slabs - 25 MPa

1. Specifications for foundations and all reinforcing must be approved by the Engineer before any contracts are used.
2. All work must be done in accordance with the contract documents.
3. **Structural**  
 All structural work shall be in accordance with the contract documents.  
 Reinforcing standard: SABS 1200-11  
 Structural standard: SABS 1200-10  
 All work must be done in accordance with the contract documents and must be completed before commencing with the construction of the concrete slab.
4. **Structural Steelwork**  
 Columns: Steel  
 Beams: Steel or I-beam  
 Slabs: Concrete or steel  
 All work must be done in accordance with the contract documents and must be completed before commencing with the construction of the concrete slab.
5. **Structural Steelwork**  
 Columns: Steel  
 Beams: Steel or I-beam  
 Slabs: Concrete or steel  
 All work must be done in accordance with the contract documents and must be completed before commencing with the construction of the concrete slab.

**REVISIONS**

NO.	DATE	BY	REASON

**REVISIONS**

NO.	DATE	BY	REASON

**VOLT CONSULTING ENGINEERS**

**ADI** ENGINEERING CONSULTANTS  
 PETERSENBERG  
 TEL: (015) 291 5514  
 FAX: (015) 291 5515

**ALTERATIONS TO BELA-BELA SUB-STATION**

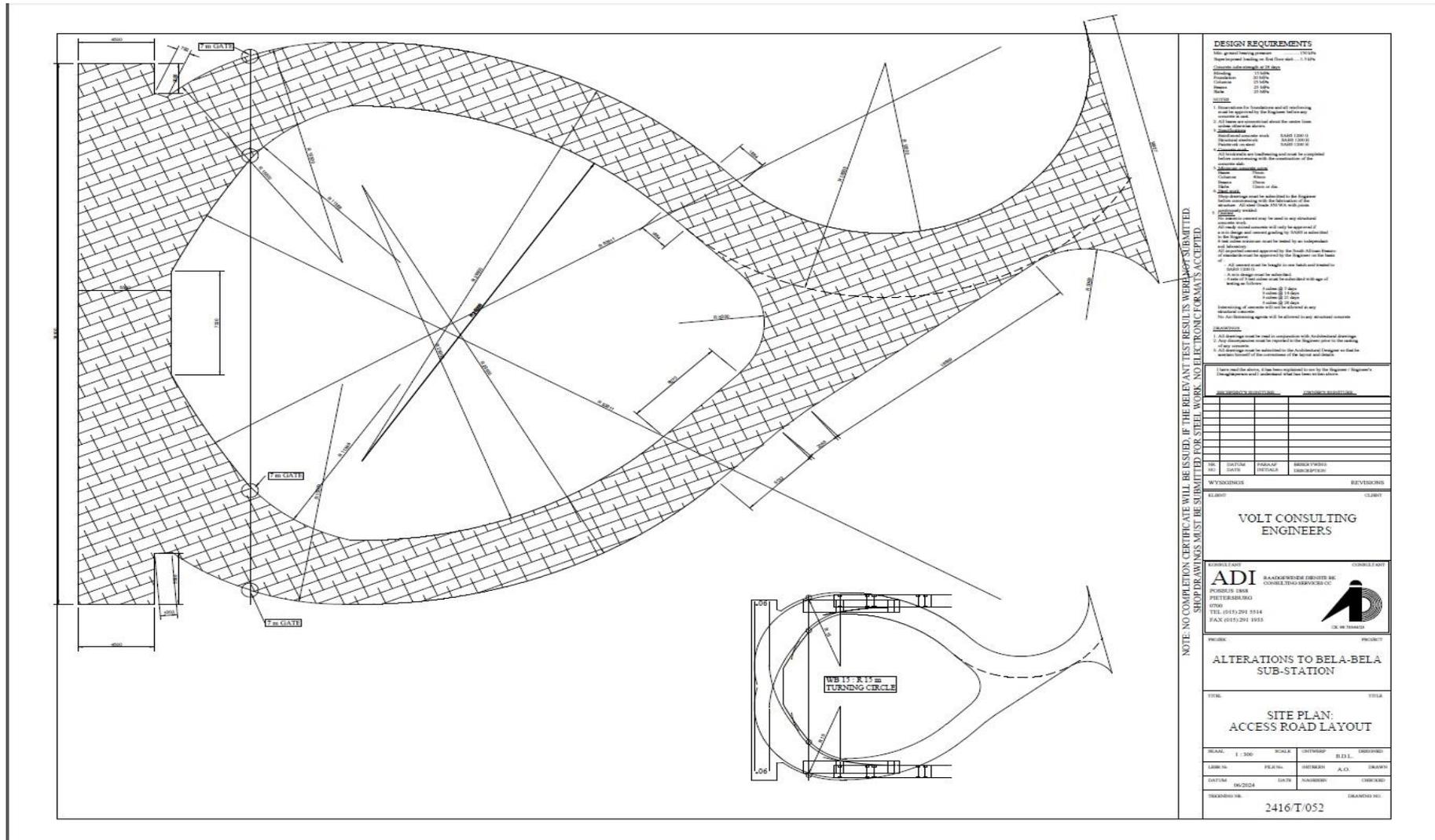
**SITE PLAN: BASE LAYOUT**

SCALE: 1:200  
 DATE: 06/20/24  
 DRAWN: A.C. DRAYTON  
 CHECKED: [Signature]  
 2416/S/100

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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**C5.1.4 SITE PLAN: ACCESS ROAD LAYOUT B**



**DESIGN REQUIREMENTS**

Site ground bearing capacity: 1500kPa  
 Super imposed loading on flat floor slab: 7.5kPa

**GENERAL INFORMATION**

Client: BELA BELA LOCAL MUNICIPALITY  
 Drawing: 2416 T/052  
 Date: 09/03/2014  
 Scale: 1:300

**NOTES**

1. All drawings must be submitted to the Engineer for approval before any construction work.
2. All drawings must be submitted to the Engineer for approval before any construction work.
3. All drawings must be submitted to the Engineer for approval before any construction work.
4. All drawings must be submitted to the Engineer for approval before any construction work.
5. All drawings must be submitted to the Engineer for approval before any construction work.
6. All drawings must be submitted to the Engineer for approval before any construction work.
7. All drawings must be submitted to the Engineer for approval before any construction work.
8. All drawings must be submitted to the Engineer for approval before any construction work.
9. All drawings must be submitted to the Engineer for approval before any construction work.
10. All drawings must be submitted to the Engineer for approval before any construction work.

**REVISIONS**

NO.	DATE	REVISION	BY

**APPROVED**

DATE: 09/03/2014  
 DRAWN: [Name]  
 CHECKED: [Name]  
 APPROVED: [Name]

**VOLT CONSULTING ENGINEERS**

**ADI**  
 REGISTERED ELECTRICAL ENGINEERS  
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**C 5.1.7 SITE PLAN: STORM WATER SPILLING BASIN**

**DESIGN REQUIREMENTS**

Min. ground bearing pressure .....150 kPa  
 Superimposed loading on first floor slab .....1.5 kPa

Concrete cube strength at 28 days

Blinding	15 MPa
Foundation	20 MPa
Columns	25 MPa
Beams	25 MPa
Slabs	25 MPa

**NOTES**

- Excavations for foundations and all reinforcing must be approved by the Engineer before any concrete is cast.
- All bases are symmetrical about the centre lines unless otherwise shown.
- Specifications**  
 Reinforced concrete work SABS 1200 G  
 Structural steelwork SABS 1200 H  
 Paintwork on steel SABS 1200 H
- Concrete work**  
 All brickwalls are loadbearing and must be completed before commencing with the construction of the concrete slab.
- Minimum concrete cover**  
 Beams 75mm  
 Columns 40mm  
 Beams 25mm  
 Slabs 12mm or dia.
- Steel work**  
 Shop drawings must be submitted to the Engineer before commencing with the fabrication of the structure. All steel Grade 350 WA with joints continuously-welded.
- Cement**  
 No intermix cement may be used in any structural concrete work.  
 All ready mixed concrete will only be approved if a mix design and cement grading by SABS is submitted to the Engineer.  
 6 test cubes minimum must be tested by an independant soil laboratory.  
 All imported cement approved by the South African Beauru of standards must be approved by the Engineer on the basis of:  
 - All cement must be bought in one batch and treated to SABS 1200 G.  
 - A mix design must be submitted.  
 - 4 sets of 3 test cubes must be submitted with age of testing as follows:  
 3 cubes @ 7 days  
 3 cubes @ 14 days  
 3 cubes @ 21 days  
 3 cubes @ 28 days  
 Intermixing of cements will not be allowed in any structural concrete.  
 No Air-Entraining agents will be allowed in any structural concrete

TITLE: **VOLT CONSULTING ENGINEERS** TITLE:

**BELA BELA SUB STATION  
 STORM WATER SPILLING BASIN**

SKAAL	SCAAL	GETEKEN/DRAWN	TAFELSIEN/CHECK	TEKENING NR	DRAWING NO
1:20	B.D.L.	B.D.L.		2416/T/092	

KONSULTANT: **ADI** RAADGEWENDE DIENSTE BK CONSULTING SERVICES CC

POSBUS 1868  
 PIETERSBURG  
 0700  
 TEL (015) 291 5514  
 FAX (015) 2911933

CONSULTANT  
 CK 98 73344/23



Contractor



Witness 1



Witness 2



Employer

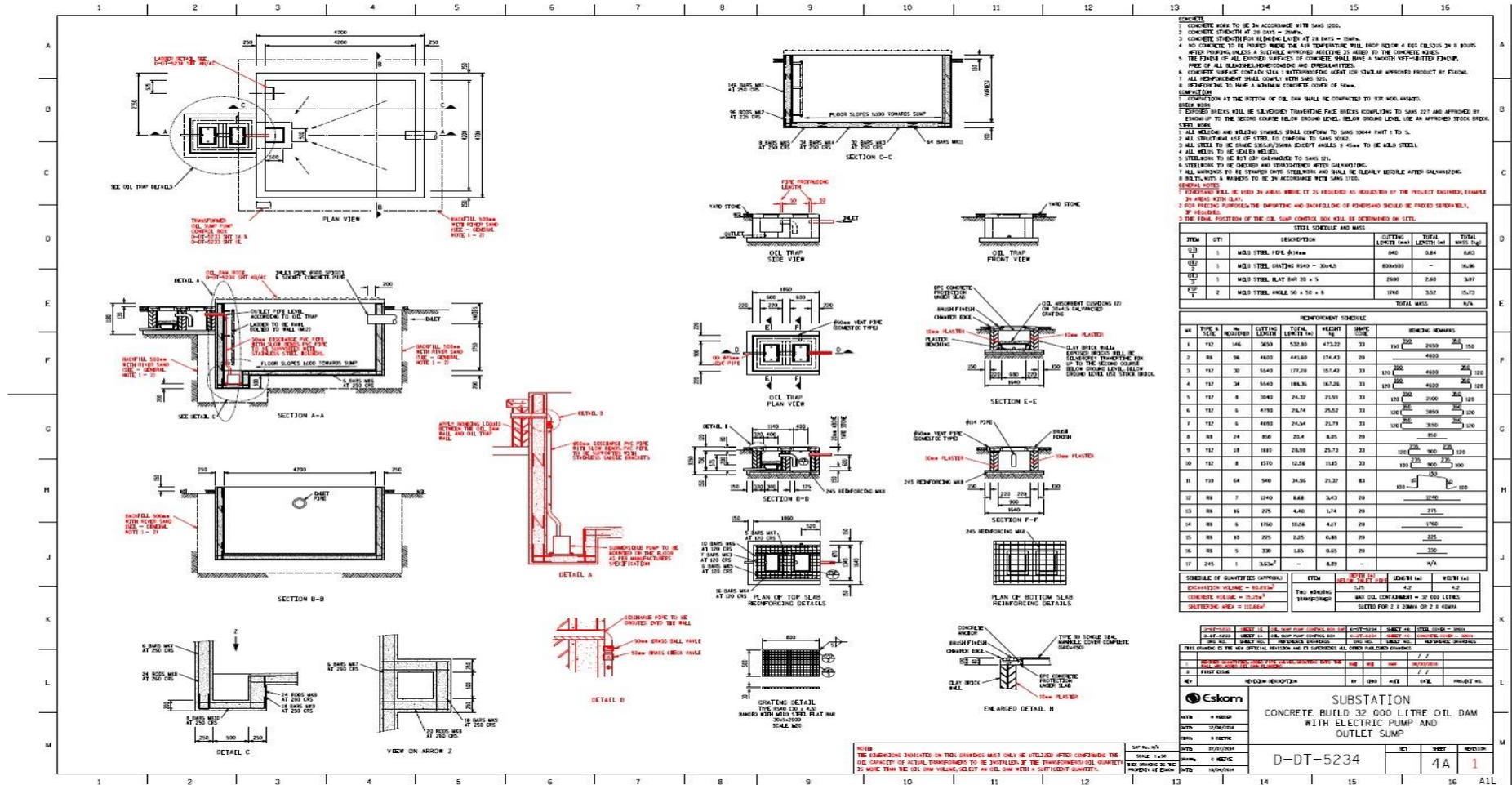


Witness 1



Witness 2

**C 5.1.8 OIL DAM – ELECTRIC PUMP AND OUTLET SUMP**



234

Contractor

Witness 1

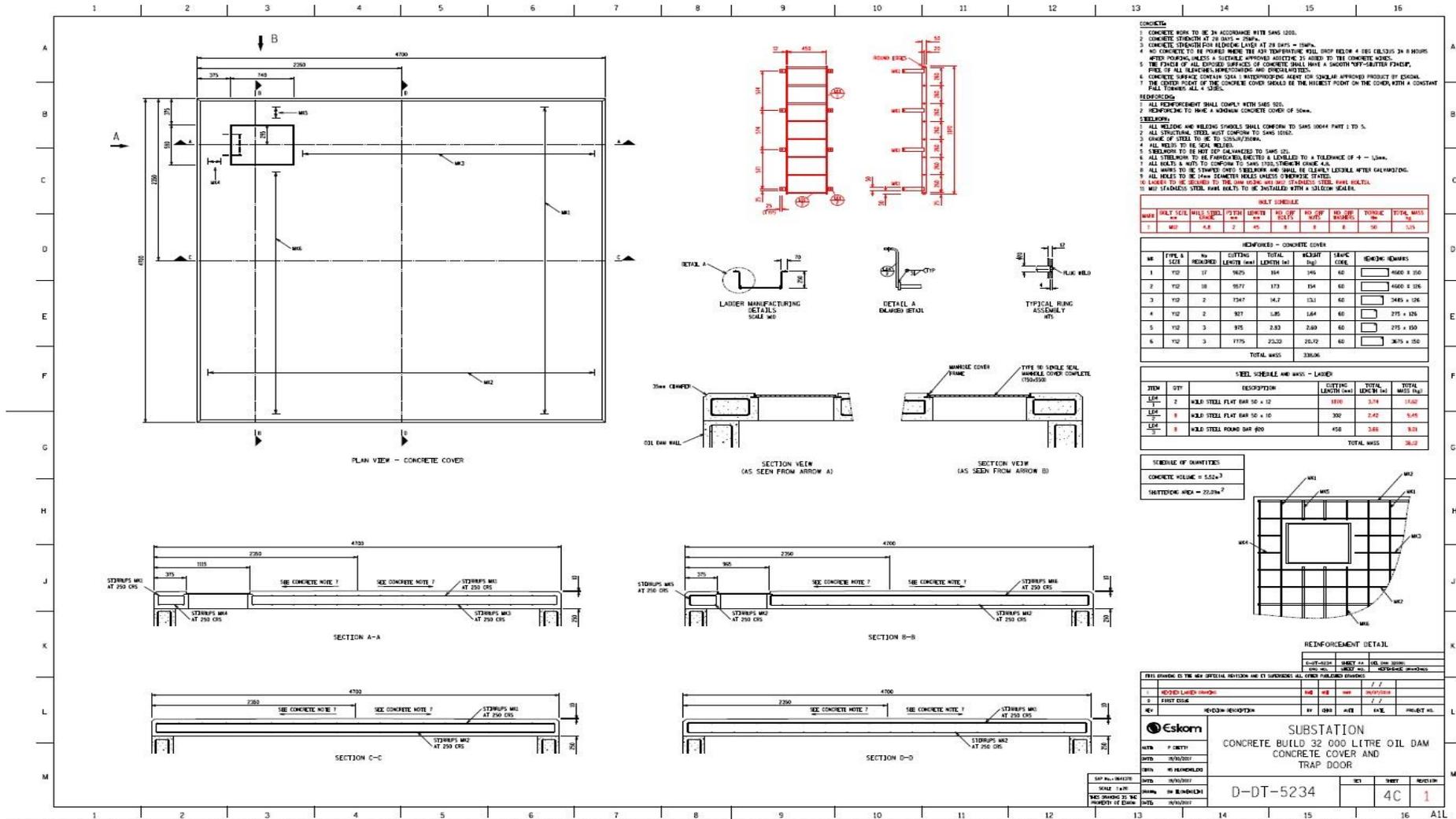
Witness 2

Employer

Witness 1

Witness 2

**C 5.1.9 OIL DAM – CONCRETE COVER AND TRAP DOOR**



235

Contractor

Witness 1

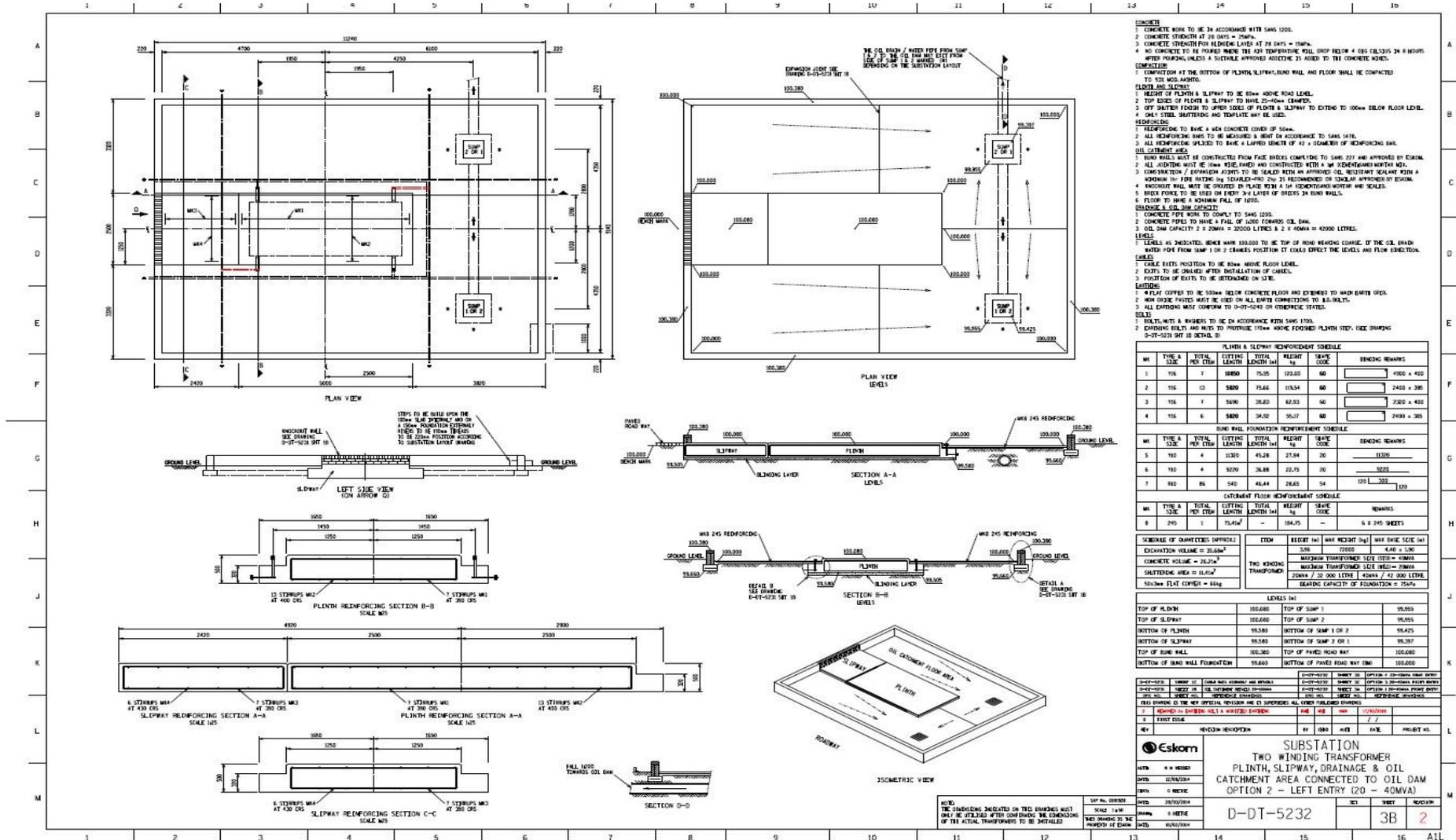
Witness 2

Employer

Witness 1

Witness 2

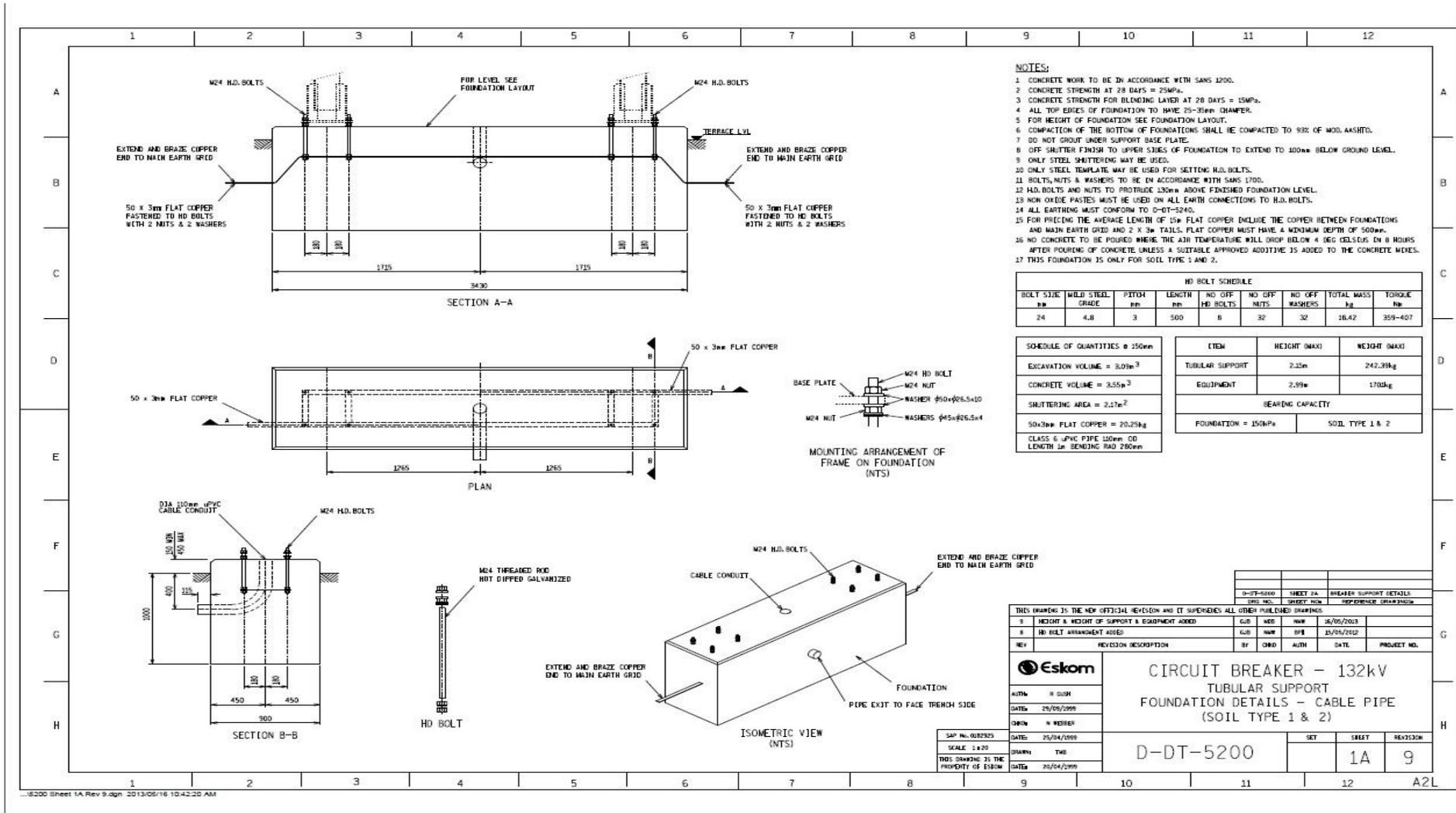
### C 5.1.10 TWO WINDING TRANSFORMER PLINTH, SLIPWAY AND DRAINAGE & OIL CATCHMENT AREA



Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2
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### C 5.1.12 TUBULAR SUPPORT FOUNDATIONS DETAILS – 132kV CIRCUIT BREAKER



Contractor

Witness 1

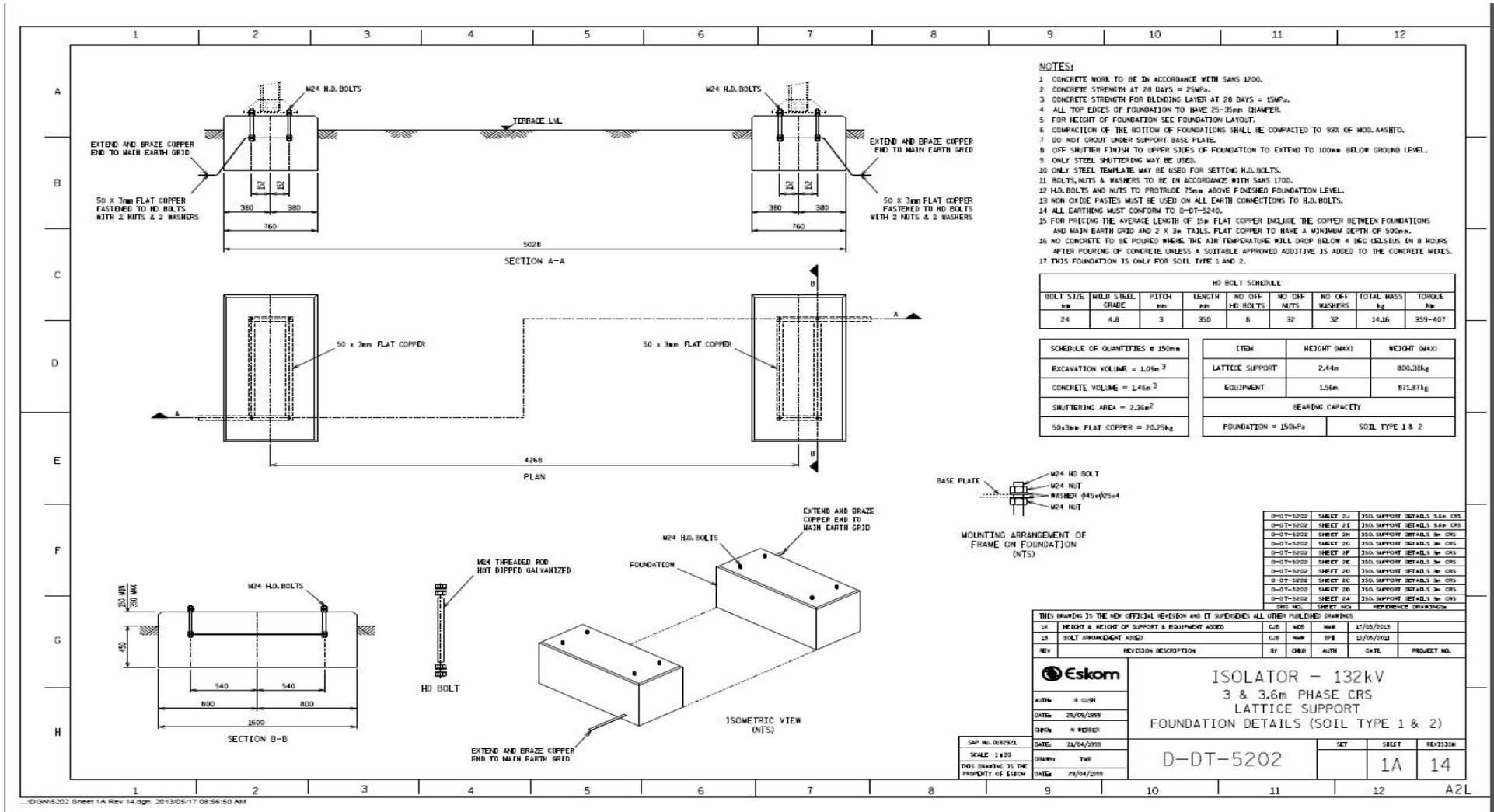
Witness 2

Employer

Witness 1

Witness 2

**C 5.1.13 LATTICE SUPPORT FOUNDATIONS DETAILS – 132KV ISOLATOR**



- NOTES:**
1. CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
  2. CONCRETE STRENGTH AT 28 DAYS = 25MPa.
  3. CONCRETE STRENGTH FOR BLENDING LAYER AT 28 DAYS = 15MPa.
  4. ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
  5. FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
  6. COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AKSHITO.
  7. DO NOT GROUT UNDER SUPPORT BASE PLATE.
  8. OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
  9. ONLY STEEL SHUTTERING MAY BE USED.
  10. ONLY STEEL TEMPLATE MAY BE USED FOR SETTING H.D. BOLTS.
  11. BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
  12. H.D. BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
  13. NON OXIDE PASTES MUST BE USED ON ALL EARTH CONNECTIONS TO H.D. BOLTS.
  14. ALL EARTHINGS MUST CONFORM TO D-DT-5240.
  15. FOR PRICING THE AVERAGE LENGTH OF 15mm FLAT COPPER ENCLOSE THE COPPER BETWEEN FOUNDATIONS AND MAIN EARTH GRID AND 2 X 3m TAILS, FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
  16. NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIXES.
  17. THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

H.D. BOLT SCHEDULE							
BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF H.D. BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS
mm		mm	mm				kg
24	4.8	3	250	8	32	32	14.36
							359-407

SCHEDULE OF QUANTITIES @ 150mm	
EXCAVATION VOLUME = 1.09m <sup>3</sup>	
CONCRETE VOLUME = 1.46m <sup>3</sup>	
SHUTTERING AREA = 2.36m <sup>2</sup>	
50x3mm FLAT COPPER = 20.25kg	

ITEM	HEIGHT (MAX)	WEIGHT (MAX)
LATTICE SUPPORT	2.44m	800.38kg
EQUIPMENT	1.56m	871.87kg
BEARING CAPACITY		
FOUNDATION = 150kPa		SOIL TYPE 1 & 2

ITEM NO.	SHEET NO.	REFERENCE DRAWING
D-DT-5202	SHEET 21	350 SUPPORT DETAILS 3.6m CRS
D-DT-5202	SHEET 22	350 SUPPORT DETAILS 3.6m CRS
D-DT-5202	SHEET 23	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 24	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 25	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 26	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 27	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 28	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 29	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 30	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 31	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 32	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 33	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 34	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 35	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 36	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 37	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 38	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 39	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 40	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 41	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 42	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 43	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 44	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 45	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 46	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 47	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 48	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 49	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 50	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 51	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 52	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 53	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 54	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 55	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 56	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 57	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 58	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 59	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 60	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 61	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 62	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 63	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 64	350 SUPPORT DETAILS 3m CRS
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D-DT-5202	SHEET 70	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 71	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 72	350 SUPPORT DETAILS 3m CRS
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D-DT-5202	SHEET 83	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 84	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 85	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 86	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 87	350 SUPPORT DETAILS 3m CRS
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D-DT-5202	SHEET 89	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 90	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 91	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 92	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 93	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 94	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 95	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 96	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 97	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 98	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 99	350 SUPPORT DETAILS 3m CRS
D-DT-5202	SHEET 100	350 SUPPORT DETAILS 3m CRS

THIS DRAWING IS THE KEY OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS						
NO.	REVISION & HEIGHT OF SUPPORT & EQUIPMENT ADDED	DATE	BY	CHKD	DATE	PROJECT NO.
1	ISSUE FOR TENDER	12/05/2013				
2	REVISION ADDED	12/05/2013				

<b>Eskom</b>		<b>ISOLATOR – 132kV</b>	
AUTH: M. GIBLIN		3 & 3.6m PHASE CRS	
DATE: 25/06/2009		LATTICE SUPPORT	
CHKD: M. REHBERG		FOUNDATION DETAILS (SOIL TYPE 1 & 2)	
SAP NO: 018292L	DATE: 24/04/2009	SET	SHEET
SCALE: 1:20	DRAWN: TWS	1A	14
THIS DRAWING IS THE PROPERTY OF Eskom	DATE: 28/04/2009		

**239**

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

### C 5.1.14 LATTICE SUPPORT FOUNDATIONS DETAILS – MEDIUM EQUIPMENT

**SECTION A-A**

**SECTION B-B**

**PLAN**

**ISOMETRIC VIEW (INTS)**

**MOUNTING ARRANGEMENT OF FRAME ON FOUNDATION (INTS)**

**NOTES:**

1. CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
2. CONCRETE STRENGTH AT 28 DAYS = 25MPa.
3. CONCRETE STRENGTH FOR BLENDING LAYER AT 28 DAYS = 15MPa.
4. ALL TOP EDGES OF FOUNDATION TO HAVE 75-35mm CHAMFER.
5. FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
6. COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AKSHIO.
7. DO NOT GROUT UNDER SUPPORT BASE PLATE.
8. OFF SHUTTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
9. ONLY STEEL SHUTTERING MAY BE USED.
10. ONLY STEEL TEMPLATE MAY BE USED FOR SETTING HD BOLTS.
11. BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1100.
12. HD BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
13. NON OXIDE PASTE MUST BE USED ON ALL EARTH CONNECTIONS TO HD BOLTS.
14. ALL EARTHING MUST CONFORM TO 0-DT-5240.
15. FOR PRECISE THE AVERAGE LENGTH OF 15m FLAT COPPER INCLUDE THE COPPER BETWEEN FOUNDATIONS AND MAIN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER MUST HAVE A MINIMUM DEPTH OF 500mm.
16. NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIXES.
17. THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

BOLT SIZE	MILD STEEL GRADE	PITCH	LENGTH	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS	TORQUE
mm		mm	mm				kg	Nm
24	4.8	3	500	4	16	16	9.21	359-407

ITEM	HEIGHT (MAX)	WEIGHT (MAX)
EXCAVATION VOLUME = 0.70m <sup>3</sup>		
CONCRETE VOLUME = 0.80m <sup>3</sup>		
SHUTTERING AREA = 0.90m <sup>2</sup>		
50x3mm FLAT COPPER = 20.25kg		

ITEM	HEIGHT (MAX)	WEIGHT (MAX)
LATTICE SUPPORT	2.00m	210.46kg
M2 CAP	300mm	54.35kg
EQUIPMENT 132KV CT	2.56m	820.00kg

BEARING CAPACITY	
FOUNDATION = 150kPa	SOIL TYPE 1 AND 2

NO	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	PROJECT NO.
1	HEIGHT & WEIGHT OF SUPPORT & EQUIPMENT ADDED	GJB	NEB	NHW	20/06/2013	
2	HD BOLT ARRANGEMENT ADDED	GJB	NHW	EPH	25/06/2012	

THIS DRAWING IS THE NEW OFFICIAL REVISION AND IT SUPERSEDES ALL OTHER PUBLISHED DRAWINGS			
SAP No. 005812		DATE	05/03/2005
SCALE 1:40		DRAWN	T. OLEANA
THIS DRAWING IS THE PROPERTY OF Eskom		DATE	28/02/2005

Eskom		MEDIUM EQUIPMENT LATTICE SUPPORT FOUNDATION DETAILS (SOIL TYPE 1 & 2)	
AUTH	R. GUSH	SET	REVISION
DATE	30/08/2005	1A	9
DRAWN	T. OLEANA		

D-DT-5206

...:DGM\5206 Sheet 1A Rev 9.dgn 2013/05/20 09:54:42 AM

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

### C 5.1.15 LATTICE SUPPORT FOUNDATIONS DETAILS – MV CABLE SEALING END

**NOTES:**

- CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
- CONCRETE STRENGTH AT 28 DAYS = 25MPa.
- CONCRETE STRENGTH FOR BLENDING LAYER AT 28 DAYS = 15MPa.
- ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
- FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
- COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% OF MOD. AASHITD.
- DO NOT GROUT UNDER SUPPORT BASE PLATE.
- OFF SHOOTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 100mm BELOW GROUND LEVEL.
- ONLY STEEL SHUTTLING MAY BE USED.
- ONLY STEEL TEMPLATE MAY BE USED FOR SETTING HD BOLTS.
- BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- HD BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
- NON OXIDE 15 TO BE USED ON ALL EARTH CONNECTIONS TO HD BOLTS.
- ALL EARTHING TO CONFORM TO D-DT-5240.
- FOR PRICING THE AVERAGE LENGTH OF 15mm FLAT COPPER ENCLOSES THE COPPER BETWEEN FOUNDATION AND MAIN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
- NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEGREES CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX.
- THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 AND 2.

BOLT SIZE	WILD STEEL GRADE	PITCH	LENGTH	NO OFF	NO OFF	NO OFF	TOTAL MASS	TORQUE
mm		mm	mm	HD BOLTS	NUTS	WASHERS	kg	Nm
24	4.8	3	500	4	16	16	9.21	359-407

EXCAVATION VOLUME = 0.77m <sup>3</sup>	BEARING CAPACITY	
CONCRETE VOLUME = 0.97m <sup>3</sup>	FOUNDATION = 150kPa	SOIL TYPE 1 & 2
SHUTTLING AREA = 1.50m <sup>2</sup>		
50x3mm FLAT COPPER = 20.25kg		

REV	NO	DESCRIPTION	DATE	BY	CHKD	AUTH	DATE	PROJECT NO.
1		HD BOLT ARRANGEMENT ADDED	25/05/2012					
2		REVISION NOTES UPDATED	12/09/2013					

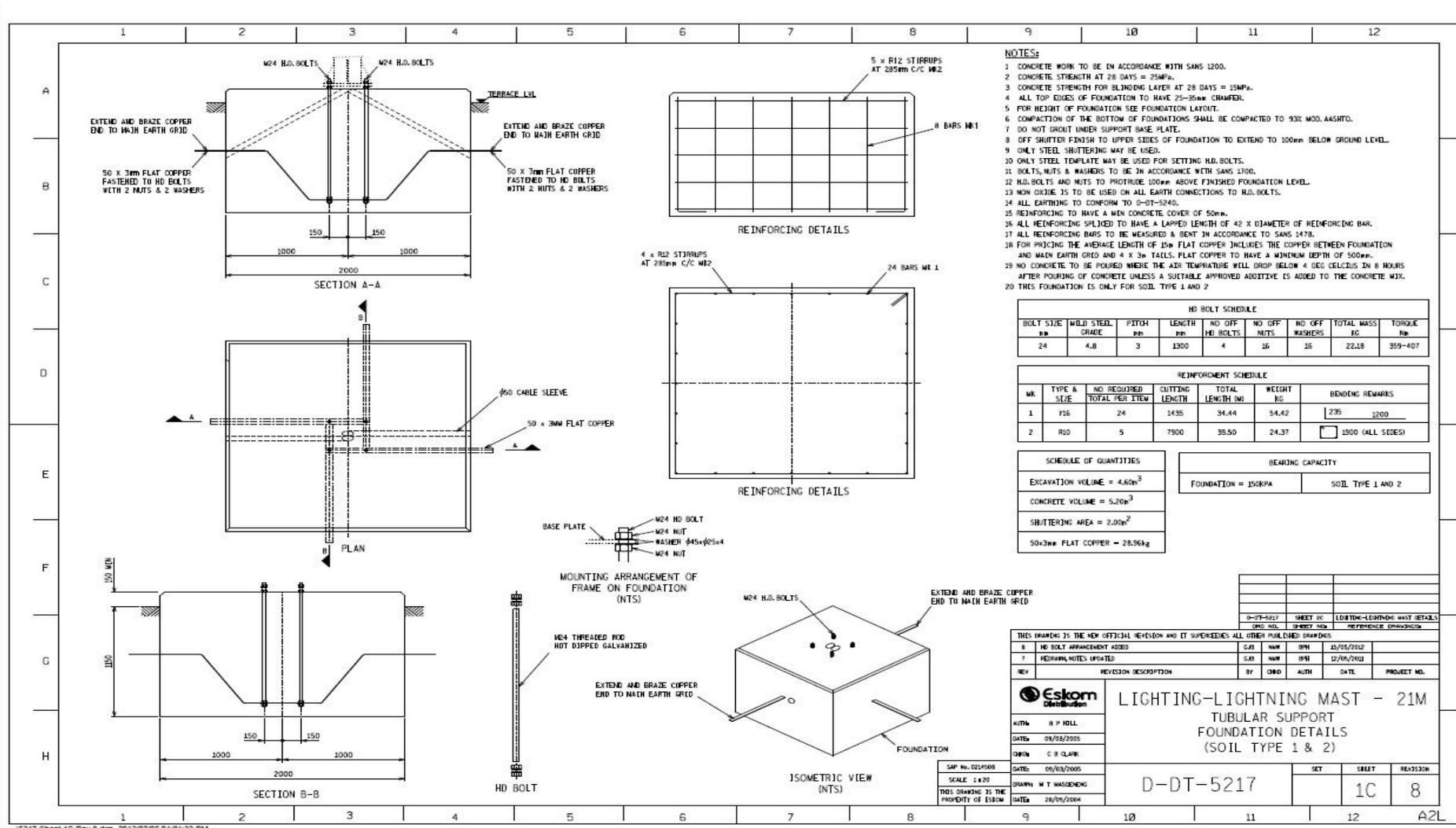
		<b>MV CABLE SEALING END LATTICE SUPPORT FOUNDATION DETAILS (SOIL TYPE 1 &amp; 2)</b>	
AUTH: B P HALL DATE: 22/09/2012 DRN: M REHNER	DATE: 04/03/2010 SCALE: 1:20 DRAWN: J F SCHOLTZ DATE: 23/02/2010	SET: 1A SHEET: 10	REVISION:

D-DT-5213

...5213 Sheet 1A Rev 10.dgn 2012/07/05 03:28:35 PM

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

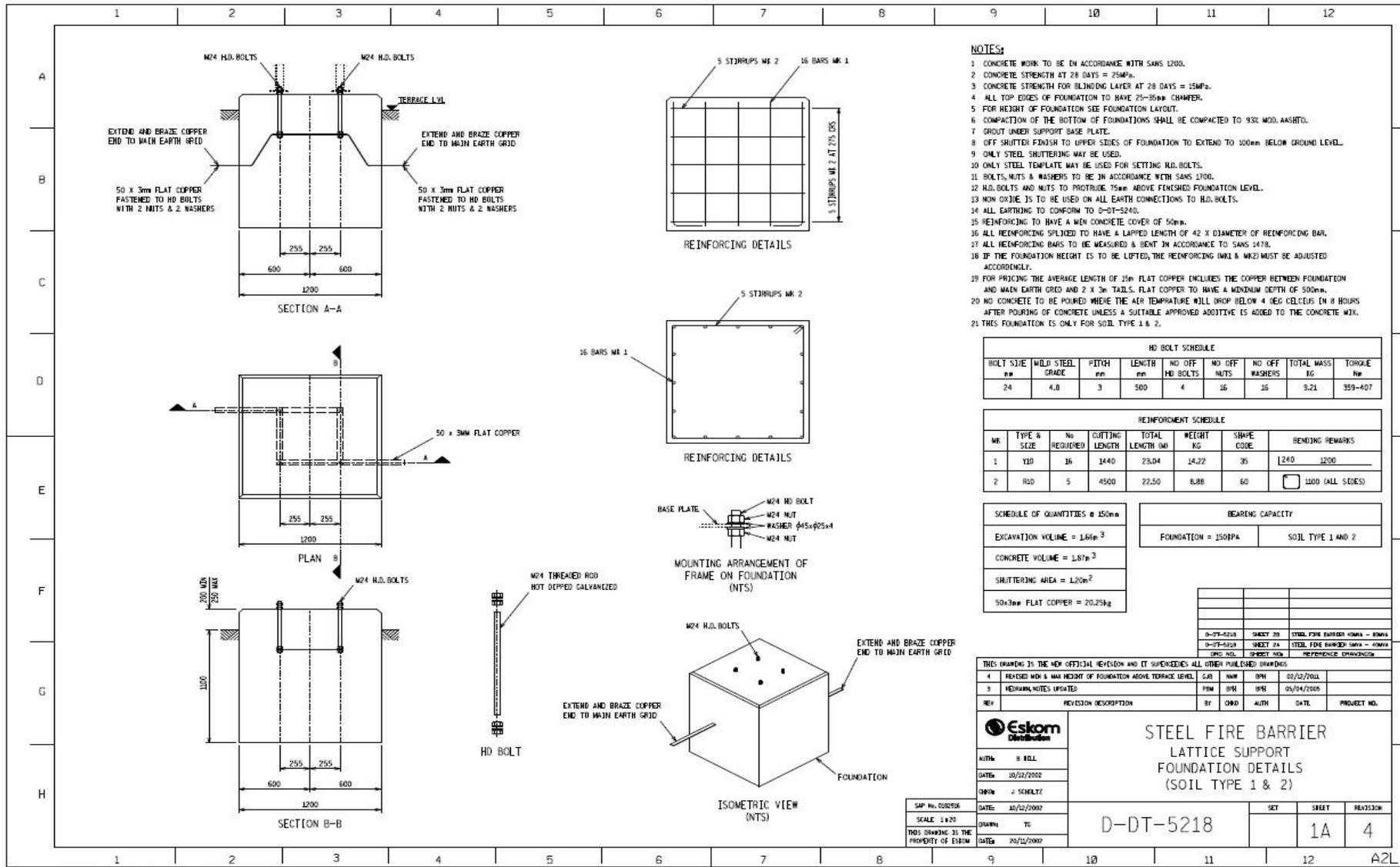
### C 5.1.16 LATTICE SUPPORT FOUNDATIONS DETAILS – 21m LIGHTNING MAST



...6217 Sheet 1C Rev 6.dgn 2012/07/05 04:04:32 PM

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

### C 5.1.17 LATTICE SUPPORT FOUNDATIONS DETAILS – STEEL FIRE BARRIER



**NOTES:**

- 1 CONCRETE WORK TO BE IN ACCORDANCE WITH SANS 1200.
- 2 CONCRETE STRENGTH AT 28 DAYS = 25MPa.
- 3 CONCRETE STRENGTH FOR BLINDING LAYER AT 28 DAYS = 15MPa.
- 4 ALL TOP EDGES OF FOUNDATION TO HAVE 25-35mm CHAMFER.
- 5 FOR HEIGHT OF FOUNDATION SEE FOUNDATION LAYOUT.
- 6 COMPACTION OF THE BOTTOM OF FOUNDATIONS SHALL BE COMPACTED TO 93% MOD.AASHTO.
- 7 GROUT UNDER SUPPORT BASE PLATE.
- 8 OFF SHOOTER FINISH TO UPPER SIDES OF FOUNDATION TO EXTEND TO 300mm BELOW GROUND LEVEL.
- 9 ONLY STEEL SHUTTERING MAY BE USED.
- 10 ONLY STEEL TEMPLATE MAY BE USED FOR SETTING HD BOLTS.
- 11 BOLTS, NUTS & WASHERS TO BE IN ACCORDANCE WITH SANS 1700.
- 12 HD BOLTS AND NUTS TO PROTRUDE 75mm ABOVE FINISHED FOUNDATION LEVEL.
- 13 NON SLUDGE JS TO BE USED ON ALL EARTH CONNECTIONS TO HD BOLTS.
- 14 ALL EARTHING TO CONFORM TO S-27-S240.
- 15 REINFORCING TO HAVE A MIN CONCRETE COVER OF 50mm.
- 16 ALL REINFORCING SPLICES TO HAVE A LAPPED LENGTH OF 42 X DIAMETER OF REINFORCING BAR.
- 17 ALL REINFORCING BARS TO BE MEASURED & BENT IN ACCORDANCE TO SANS 1478.
- 18 IF THE FOUNDATION HEIGHT IS TO BE LOFTED, THE REINFORCING (MK1 & MK2) MUST BE ADJUSTED ACCORDINGLY.
- 19 FOR PRICING THE AVERAGE LENGTH OF 50mm FLAT COPPER INCLUDES THE COPPER BETWEEN FOUNDATION AND MAEN EARTH GRID AND 2 X 3m TAILS. FLAT COPPER TO HAVE A MINIMUM DEPTH OF 500mm.
- 20 NO CONCRETE TO BE POURED WHERE THE AIR TEMPERATURE WILL DROP BELOW 4 DEG CELSIUS IN 8 HOURS AFTER POURING OF CONCRETE UNLESS A SUITABLE APPROVED ADDITIVE IS ADDED TO THE CONCRETE MIX.
- 21 THIS FOUNDATION IS ONLY FOR SOIL TYPE 1 & 2.

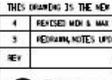
BOLT SIZE	WLD STEEL GRADE	PITCH	LENGTH	NO OFF HD BOLTS	NO OFF NUTS	NO OFF WASHERS	TOTAL MASS KG	TORQUE Nm
24	4.8	3	500	4	16	16	9.21	359-407

MK	TYPE & SIZE	No REQUIRED	CUTTING LENGTH	TOTAL LENGTH (M)	WEIGHT KG	SHAPE CODE	BENDING REMARKS
1	Y10	16	1440	23.04	14.22	35	1240 1200
2	R10	5	4500	22.50	8.88	60	1200 (ALL SIDES)

EXCAVATION VOLUME = 1.66m <sup>3</sup>
CONCRETE VOLUME = 1.87m <sup>3</sup>
SHUTTERING AREA = 1.20m <sup>2</sup>
50x3mm FLAT COPPER = 20.25kg

FOUNDATION = 1500PA	SOIL TYPE 1 AND 2
---------------------	-------------------

REV	REVISION DESCRIPTION	BY	CHKD	DATE	PROJECT NO.
4	REVISED MK1 & MK2 HEIGHT OF FOUNDATION ABOVE TERRACE LEVEL	SPH	MMH	09/12/2002	
3	REINFORCING NOTES UPDATED	SPH	MMH	05/04/2002	



**STEEL FIRE BARRIER  
LATTICE SUPPORT  
FOUNDATION DETAILS  
(SOIL TYPE 1 & 2)**

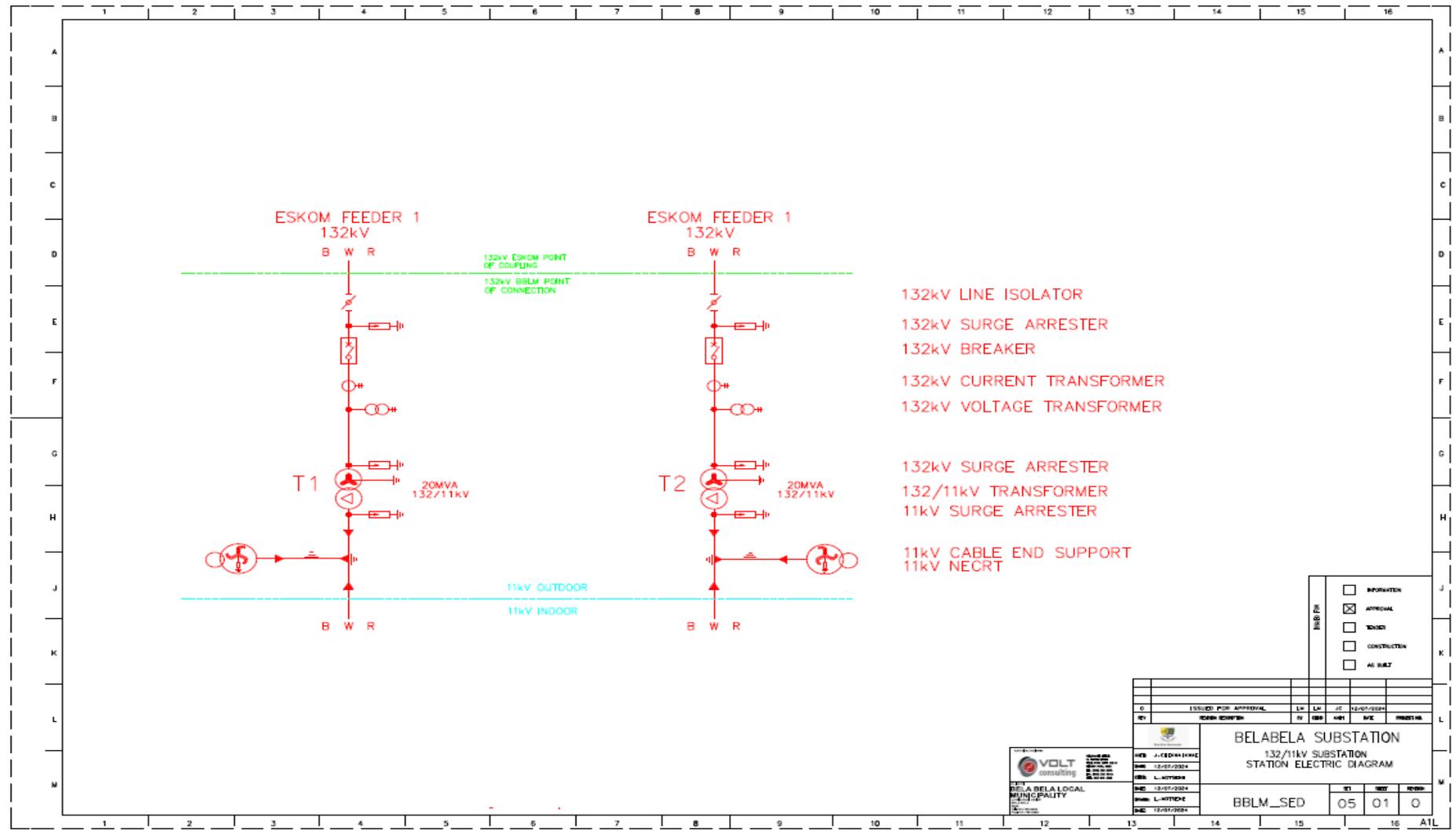
D-DT-5218

SET	SHEET	REVISION
	1A	4

...5218 Sheet 1A Rev 4.dgn 2012/07/05 04:06:48 PM

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

**C 5.1.18 ELECTRIC DIAGRAM – OUTDOOR**



Contractor

Witness 1

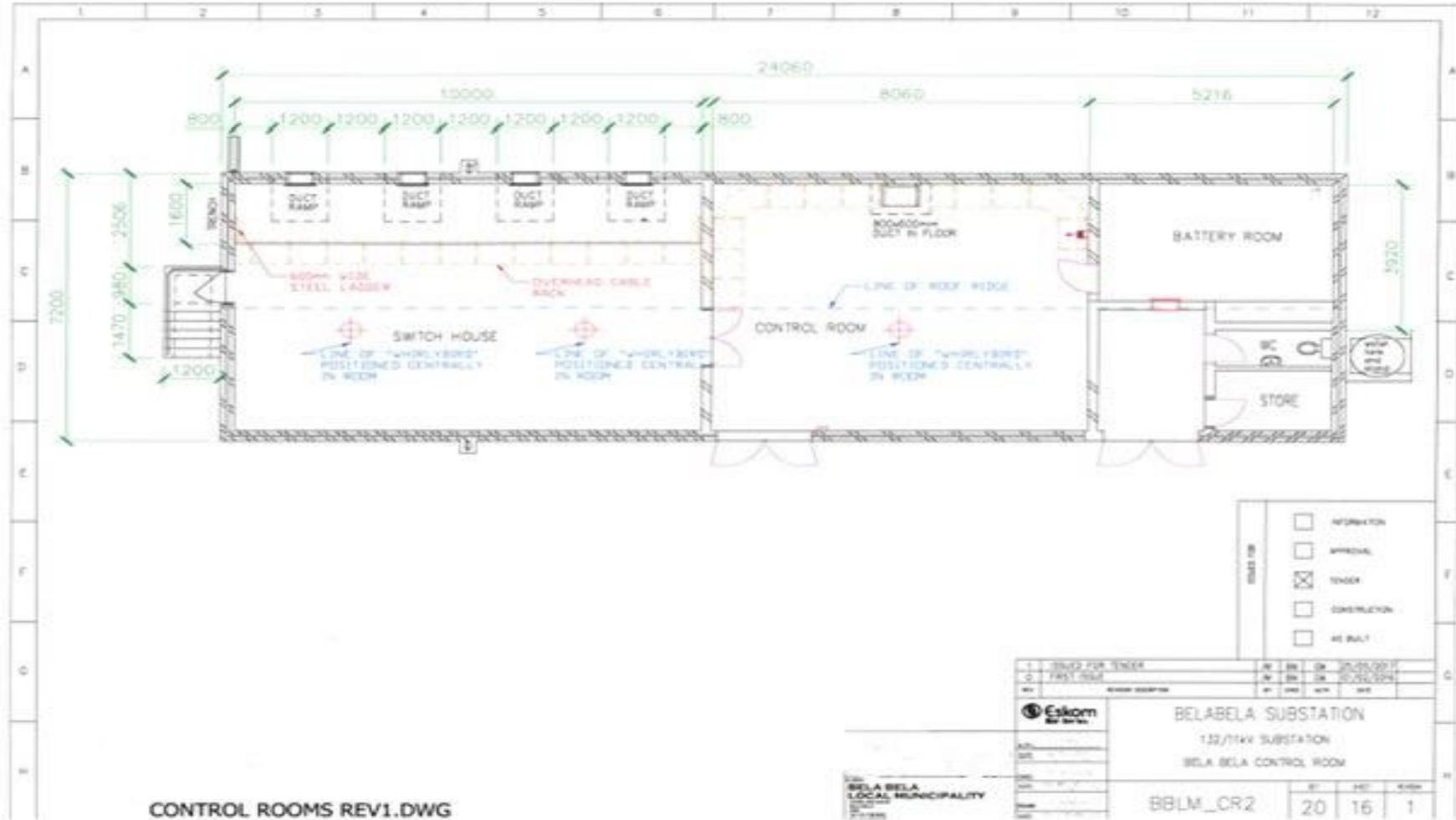
Witness 2

Employer

Witness 1

Witness 2

**C 5.1.19 ELECTRIC DIAGRAM – INDOOR**



Contractor

Witness 1

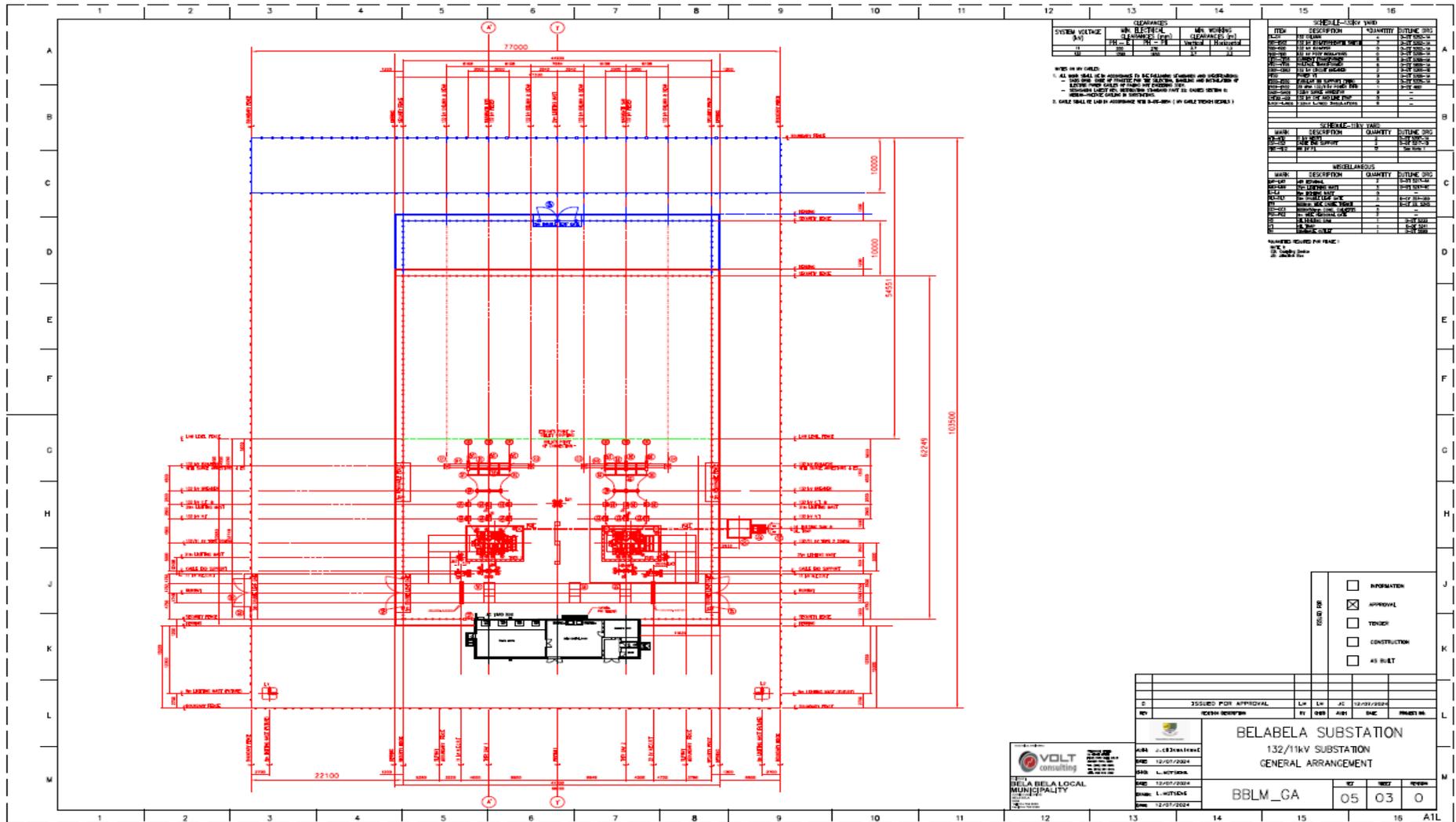
Witness 2

Employer

Witness 1

Witness 2

**C 5.1.20 GENERAL ARRANGEMENT**



SYSTEM VOLTAGE (kV)	REQUIREMENTS		MIN. WORKING CLEARANCE (mm)
	MIN. ELECTRICAL CLEARANCE (mm)	MIN. WORKING CLEARANCE (mm)	
11	25	25	1000
33	50	50	1500

- NOTES IN THIS GATE:
- ALL WORK SHALL BE IN ACCORDANCE TO THE NATIONAL ELECTRICAL AND REGULATORY CODES AND STANDARDS:
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-1)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-2)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-3)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-4)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-5)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-6)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-7)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-8)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-9)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-10)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-11)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-12)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-13)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-14)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-15)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-16)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-17)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-18)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-19)
    - REGULATORY CODE OF PRACTICE FOR ELECTRICAL INSTALLATIONS (SANS 10142-20)
  - GATE SHALL BE IN ACCORDANCE WITH SANS 10142-1 (IN GATE TECHNICAL SPECIFICATION)

ITEM	DESCRIPTION	QUANTITY	UNIT	DATE
1	CONCRETE FOUNDATION	1	m <sup>2</sup>	12/01/2024
2	STEEL STRUCTURE	1	m <sup>2</sup>	12/01/2024
3	PAINT	1	m <sup>2</sup>	12/01/2024
4	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
5	SEWERAGE	1	m <sup>2</sup>	12/01/2024
6	ROAD	1	m <sup>2</sup>	12/01/2024
7	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
8	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
9	TELEPHONE	1	m <sup>2</sup>	12/01/2024
10	TELEVISION	1	m <sup>2</sup>	12/01/2024
11	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
12	SEWERAGE	1	m <sup>2</sup>	12/01/2024
13	ROAD	1	m <sup>2</sup>	12/01/2024
14	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
15	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
16	TELEPHONE	1	m <sup>2</sup>	12/01/2024
17	TELEVISION	1	m <sup>2</sup>	12/01/2024
18	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
19	SEWERAGE	1	m <sup>2</sup>	12/01/2024
20	ROAD	1	m <sup>2</sup>	12/01/2024
21	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
22	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
23	TELEPHONE	1	m <sup>2</sup>	12/01/2024
24	TELEVISION	1	m <sup>2</sup>	12/01/2024
25	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
26	SEWERAGE	1	m <sup>2</sup>	12/01/2024
27	ROAD	1	m <sup>2</sup>	12/01/2024
28	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
29	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
30	TELEPHONE	1	m <sup>2</sup>	12/01/2024
31	TELEVISION	1	m <sup>2</sup>	12/01/2024
32	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
33	SEWERAGE	1	m <sup>2</sup>	12/01/2024
34	ROAD	1	m <sup>2</sup>	12/01/2024
35	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
36	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
37	TELEPHONE	1	m <sup>2</sup>	12/01/2024
38	TELEVISION	1	m <sup>2</sup>	12/01/2024
39	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
40	SEWERAGE	1	m <sup>2</sup>	12/01/2024
41	ROAD	1	m <sup>2</sup>	12/01/2024
42	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
43	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
44	TELEPHONE	1	m <sup>2</sup>	12/01/2024
45	TELEVISION	1	m <sup>2</sup>	12/01/2024
46	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
47	SEWERAGE	1	m <sup>2</sup>	12/01/2024
48	ROAD	1	m <sup>2</sup>	12/01/2024
49	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
50	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024

MARK	DESCRIPTION	QUANTITY	UNIT	DATE
1	CONCRETE FOUNDATION	1	m <sup>2</sup>	12/01/2024
2	STEEL STRUCTURE	1	m <sup>2</sup>	12/01/2024
3	PAINT	1	m <sup>2</sup>	12/01/2024
4	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
5	SEWERAGE	1	m <sup>2</sup>	12/01/2024
6	ROAD	1	m <sup>2</sup>	12/01/2024
7	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
8	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
9	TELEPHONE	1	m <sup>2</sup>	12/01/2024
10	TELEVISION	1	m <sup>2</sup>	12/01/2024
11	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
12	SEWERAGE	1	m <sup>2</sup>	12/01/2024
13	ROAD	1	m <sup>2</sup>	12/01/2024
14	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
15	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
16	TELEPHONE	1	m <sup>2</sup>	12/01/2024
17	TELEVISION	1	m <sup>2</sup>	12/01/2024
18	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
19	SEWERAGE	1	m <sup>2</sup>	12/01/2024
20	ROAD	1	m <sup>2</sup>	12/01/2024
21	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
22	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
23	TELEPHONE	1	m <sup>2</sup>	12/01/2024
24	TELEVISION	1	m <sup>2</sup>	12/01/2024
25	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
26	SEWERAGE	1	m <sup>2</sup>	12/01/2024
27	ROAD	1	m <sup>2</sup>	12/01/2024
28	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
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30	TELEPHONE	1	m <sup>2</sup>	12/01/2024
31	TELEVISION	1	m <sup>2</sup>	12/01/2024
32	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
33	SEWERAGE	1	m <sup>2</sup>	12/01/2024
34	ROAD	1	m <sup>2</sup>	12/01/2024
35	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
36	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
37	TELEPHONE	1	m <sup>2</sup>	12/01/2024
38	TELEVISION	1	m <sup>2</sup>	12/01/2024
39	WATER SUPPLY	1	m <sup>2</sup>	12/01/2024
40	SEWERAGE	1	m <sup>2</sup>	12/01/2024
41	ROAD	1	m <sup>2</sup>	12/01/2024
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43	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024
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47	SEWERAGE	1	m <sup>2</sup>	12/01/2024
48	ROAD	1	m <sup>2</sup>	12/01/2024
49	LANDSCAPING	1	m <sup>2</sup>	12/01/2024
50	POWER SUPPLY	1	m <sup>2</sup>	12/01/2024

MARKED REVISED FOR PHASE 1  
 DATE: 12/01/2024  
 BY: [Signature]

<input type="checkbox"/>	INFORMATION
<input checked="" type="checkbox"/>	APPROVAL
<input type="checkbox"/>	TENDER
<input type="checkbox"/>	CONSTRUCTION
<input type="checkbox"/>	AS BUILT

ISSUED FOR APPROVAL	DATE	BY	DATE	BY	DATE	BY	DATE

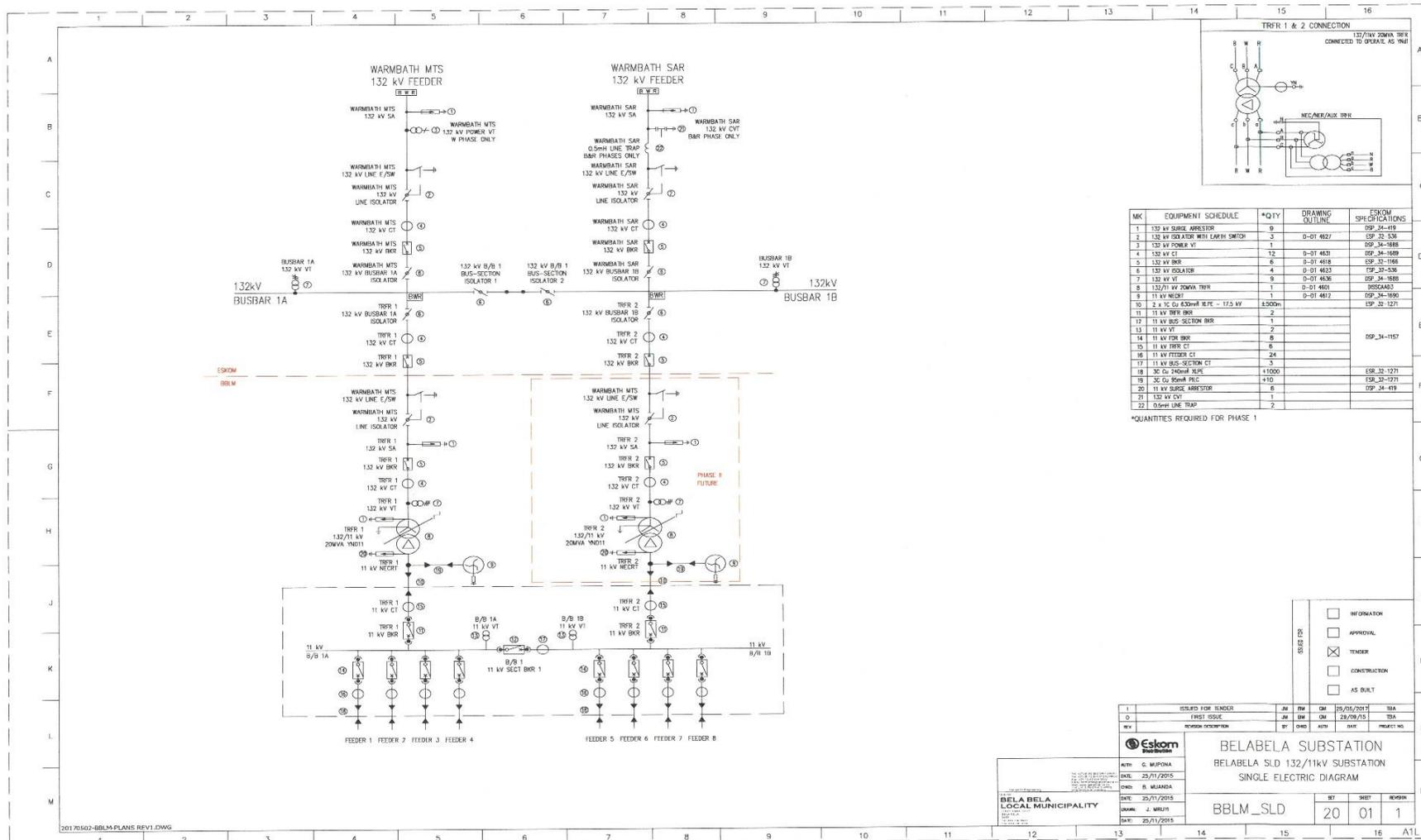


**BELABELA SUBSTATION**  
 132/11kV SUBSTATION  
 GENERAL ARRANGEMENT

BBLM\_GA 05 03 0

<input type="text"/>					
Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

**C 5.1.21 SINGLE LINE DIAGRAM**



Contractor

Witness 1

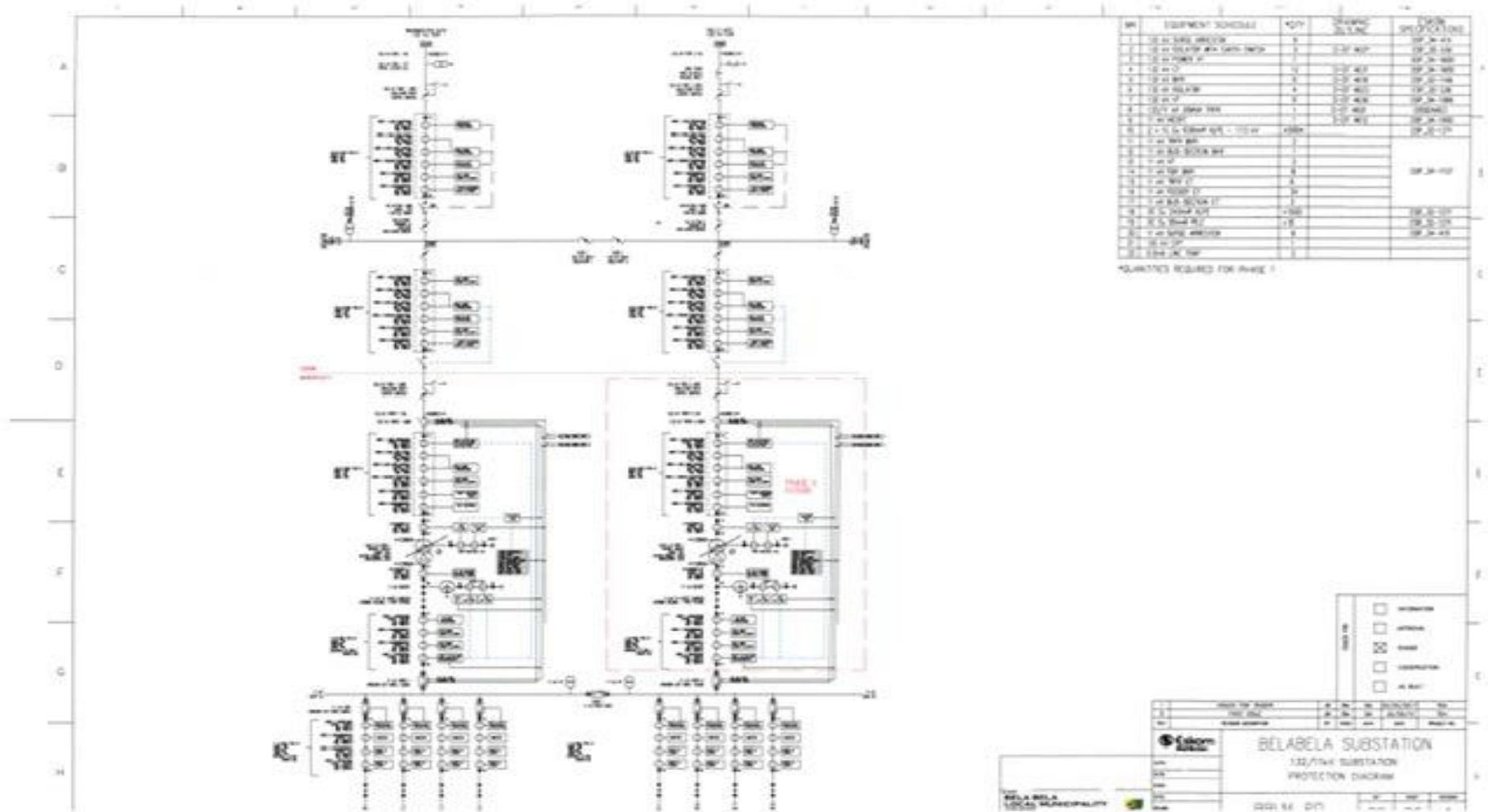
Witness 2

Employer

Witness 1

Witness 2

### C 5.1.22 PROTECTION DIAGRAM



Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2