




**EMALAHLENI
LOCAL MUNICIPALITY**

TENDER NO: ELM 14/2025

**APPOINTMENT OF AN ELECTRICAL CONTRACTOR FOR THE
ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE**

CIDB GRADE: 5EP / 4EP PE or Higher

EMPLOYER	ENQUIRIES
<p align="center">Emalahleni Local Municipality</p> <p align="center">P.O. Box 3 Witbank 1035</p> <p align="center">Municipal Manager Tel No.: +27 13 690 6911 Fax No.: +27 13 690 6207 E-mail: maiselahs@emalahleni.gov.za</p>	<p align="center">ELM Supply Chain Management Ms. Z. Moroku Tel No.: +27 13 690 6497 E-mail: masangonz@emalahleni.gov.za</p> <hr/> <p align="center">  Consulting Engineer Lyon and Partners (Pty) Ltd Contact person: Christo de Beer Tel No.: +27 16 981 6270 E-mail: lyon@lyon.co.za </p>

Tender Closing Date: Friday, 20 June 2025 at 11:00

TENDER PRICE	
TOTAL COST (INCL. VAT)	
Bidder's Details:	
Company Name	
Physical Address	
Contact No.	
E-mail Address	
Contact Person	
Central Supplier Database No.	
Company Registration No.	
CIDB Registration No.	



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NOTE:

All writing to be done in this document must be in black to facilitate clear photocopying



EMALAHLENI LOCAL MUNICIPALITY

P O Box 3
EMALAHLENI
1035

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

T1 – TENDER CONDITIONS

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**T1.1 – TENDER NOTICE AND INVITATION
TO TENDER**

T1.1 TENDER NOTICE

T1.1. TENDER NOTICE AND INVITATION TO TENDER

EMALAHLENI LOCAL MUNICIPALITY MPUMALANGA INVITES TENDERS FOR THE APPOINTMENT OF AN ELECTRICAL CONTRACTOR FOR THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE

It is estimated that tenderers should have a cidb contractor grading of 5EP or higher. 4EP Potentially Emerging Enterprises who satisfy criteria stated in the Tender Data may submit Tender offers.

Preferences are offered to tenderers who have a grading of 5EP / 4EP PE or Higher

Tender Documents will be available from www.emalahleni.gov.za or www.etenders.gov.za.

Duly completed tenders enclosed in a sealed envelope marked "APPOINTMENT OF AN ELECTRICAL CONTRACTOR FOR THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE, BID NO.

ELM 14/2025, CLOSING DATE: 20 JUNE 2025" with the name of the Tenderer, shall be deposited in the clearly marked tender box situated at Emalahleni Local Municipality, Civic Centre, 29 Mandela Street, eMalahleni, 1035 before 11h00 on the closing date. The tenders will thereafter be opened in public.

A non-compulsory virtual clarification meeting with representatives of the Employer will take place on Thursday, 29 May 2025 starting at 09h00 via Microsoft Teams. Tenderers are required to register for attending the virtual briefing to be conducted by the Clients Representative by sending details (email address and representative name and surname) of the bidding entity to lyon@lyon.co.za. A Microsoft Teams invite will be sent to the bidding entities registered not later than Wednesday, 28 May 2025 at 15:00.

A preferential point system shall apply whereby a contract will be allocated to a tenderer in accordance with the Preferential Procurement Regulations, 2022 and as defined in the Conditions of Tender in the tender document, read in conjunction with the Supply Chain Management Policy of ELM where 80 points will be allocated in respect of price and 20 points in respect of Specific goals.

No awards will be made to a person:

- Who is in the service of the state;
- If that person not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state and or;
- who is an advisor or consultant contracted with the municipality or municipal entity.

The Municipality reserves the right to withdraw any invitation to tender and /or to re-advertise or to reject any tender or to accept a part of it.

Queries relating to the issues of these documents may be addressed to:

Mr M.E Sedupane

Tel No. 0136906298

E-mail. sedupaneme@emalahleni.gov.za

T1.1 TENDER NOTICE

or

Ms Z. Moroku

Tel No. 0136906497

E-mail. masangonz@emalahleni.gov.za

or

Lyon and Partners (Pty) Ltd

Tel No. 0169816270

E-mail. lyon@lyon.co.za

A clarification meeting with representatives of the Employer will take place at MICROSOFT TEAMS on 29 May 2025 starting at 09h00.

The closing time for receipt of Tenders is 11h00 on Friday, June 20, 2025.

Emailed and Late Tenders will not be accepted.

Tenders may only be submitted on the tender documentation that is issued.

Requirements for sealing, addressing, delivering, opening and assessment of Tenders are stated in the Tender Data.

T1.1 TENDER NOTICE

T1.1.1. MBD 1 - INVITATION TO BID – PART A

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE EMALAHLENI LOCAL MUNICIPALITY					
BID NUMBER:	ELM 14/2025	CLOSING DATE:	FRIDAY, 20 JUNE 2025	CLOSING TIME:	11:00
DESCRIPTION	THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT:

EMALAHLENI LOCAL MUNICIPALITY					
CIVIC CENTRE					
29 MANDELA STREET					
EMALAHLENI					
SUPPLIER INFORMATION					
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:	OR	CSD No:	MAAA	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	<input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	<input type="checkbox"/> Yes <input type="checkbox"/> No	
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]	
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					

T1.1 TENDER NOTICE

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL INFORMATION MAY BE DIRECTED TO:	
DEPARTMENT	PMU	TECHNICAL	
CONTACT PERSON	MR ME SEDUPANE	CONTACT PERSON	MR C DE BEER
TELEPHONE NUMBER	(013) 690 6497	TELEPHONE NUMBER	(016) 981 6270
FACSIMILE NUMBER	(013) 690 6207	FACSIMILE NUMBER	n/a
E-MAIL ADDRESS	S302695@emalahleni.gov.za	E-MAIL ADDRESS	lyon@lyon.co.za

T1.1 TENDER NOTICE

T1.1.2. MBD 1 – TERMS & CONDITIONS FOR BIDDING – PART B

1. BID SUBMISSION:	
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.	
1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR ONLINE.	
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.	
2. TAX COMPLIANCE REQUIREMENTS	
2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.	
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.	
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.	
2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.	
2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.	
2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.	
2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.	
3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS	
3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?	<input type="checkbox"/> YES <input type="checkbox"/> NO
3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?	<input type="checkbox"/> YES <input type="checkbox"/> NO
3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	<input type="checkbox"/> YES <input type="checkbox"/> NO
3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	<input type="checkbox"/> YES <input type="checkbox"/> NO
3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	<input type="checkbox"/> YES <input type="checkbox"/> 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.	

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

T1.1 TENDER NOTICE

T1.1.3. REFERENCE NUMBER AND TITLE

The contract number and title shall be:

ELM 14/2025 : THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

T1.1.4. BRIEF DESCRIPTION OF THE WORKS

The Contractor to be appointed by Emalahleni Local Municipality will undertake the full scope of work which, at high level, comprises of the supply, delivery, installation, testing, commissioning, and handing over, complete with auxiliary equipment, of the Electrification of 341 Units in Hlalanikahle.

T1.1.5. SUBMISSION AND VALIDITY OF TENDERS

Tenders are to be delivered to:

**THE TENDER BOX:
CIVIC CENTRE
29 MANDELA STREET
EMALAHLENI**

Tenders are to be submitted in a robust sealed parcel clearly marked as follows:

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

BID NO : ELM 14/2025

CLOSING DATE : FRIDAY, 20 JUNE 2025

NAME OF TENDERER : _____

The name of the Tenderer shall appear prominently on the cover of the parcel.

Tenders will not be considered unless all relevant schedules and Form of Tender contained herein have been completed.

Any alternative offers which the Tenderer may wish to submit may be presented on their official stationary, but it shall be understood that such offers shall be subject to all the conditions set out in this document and the bill of quantity must be price to consider alternative offers.

Tenderer's Condition of Sale or Contract printed on their own stationary will be disregarded and it shall be clearly understood that the Conditions which shall apply shall be those contained in these documents unless the Tenderer specifically absolves himself from any such conditions on the form "Alterations by Tenderer" contained in this document.

On no account shall any alterations be made to the text of these documents, or any pages removed from the binding

Tenders received after the closing date and time shall not be considered.

Faxed, e-mailed or telephonic tenders will NOT be accepted.

Tenders are to be valid for a period as indicated in the Special Provisions of the Conditions of Contract from the date of submission.

Tender prices shall remain fixed and firm for the entire validity period.

The Tenderer shall submit one completed original tender document.

T1.1 TENDER NOTICE

T1.1.6. NON-COMPULSORY SITE BRIEFING

A virtual non-compulsory clarification meeting with representatives of Emalahleni Local Municipality will take place on Thursday, 29 May 2025 at 09:00.

Tenderers are required to register for attending the virtual briefing to be conducted by the Clients Representative by sending details (email address and representative name and surname) of the bidding entity to lyon@lyon.co.za. A Microsoft Teams invite will be sent to the bidding entities registered not later than Wednesday, 28 May 2025 at 15:00.

T1.2 – TENDER DATA

T1.2 TENDER DATA

T1.2. TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement (Feb 2008) as published in Government Gazette No: 30692, Board Notice 9 of 2008 of 1 February 2008. (See www.cidb.org.za).

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

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

Clause Number	
F.1.1	The Employer is: Emalahleni Local Municipality PO Box 3 Emalahleni 1035
F.1.2	Tender Documents The tender documents issued by the employer comprise: 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 Schedules PART C1: AGREEMENTS AND CONTRACT DATA C1.1: Form of Offer and Acceptance C1.2: Contract Data C1.3: Form of Guarantee C1.4: Adjudicator's Agreement (if applicable) PART C2: PRICING DATA C2.1: Pricing Instructions C2.2: Bills of Quantities PART C3: SCOPE OF WORKS C3: Scope of Works C3.1: Project Specifications C3.2: Technical Schedules C3.3: General Specification PART C4: SITE INFORMATION PART C5: ANNEXURES AND DRAWINGS Annexure 1: Employer H & S Specification Annexure 2: Employer Environmental Specification Annexure 3: Drawings

T1.2 TENDER DATA

F.1.3	<p>Interpretation</p> <p>The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these tender conditions.</p>
F.1.4	<p>The Employer's Agent is:</p> <p>Lyon and Partners PO Box 3925 Vanderbijlpark 1900</p>
F.1.5	<p>The Employer's Right to Accept or Reject any Tender Offer</p> <p>The Employer has the right to not accept the lowest tender and to accept the tender as a whole or in part, or not to consider any tender not suitably endorsed and is fully reserved by Emalahleni Local Municipality.</p>
F.2.1	<p>Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders:</p> <p>Availability of resources.</p> <p>Availability of skills to manage and perform the contract – including staffs which satisfy EPWP requirements.</p> <p>Previous experience on contracts of a similar value and nature.</p> <p>a) Financial standing and capability.</p> <p>b) Cost effective and practical method statement.</p> <p>A Tenderer will not be eligible to submit a tender if:</p> <ul style="list-style-type: none"> a. The Contractor submitting the tender is under restrictions or has principals who are under restriction to participate in the Employer's procurement due to corrupt or fraudulent practices; b. The Tenderer does not have the legal capacity to enter into the contract; c. The Contractor submitting the tender is insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, under Business Rescue as provided for in chapter 6 of the Companies Act 2008, or is subject to legal proceedings in respect of the foregoing;
	<ul style="list-style-type: none"> d. The Tenderer does not comply with the legal requirements stated in the Employer's procurement policy e. The Tenderer cannot demonstrate that he possesses the necessary professional and technical qualifications and competent, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract; f. The Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract. <p>Only those Tenderers who are registered with the Construction Industry Development Board (CIDB) in a contractor-grading equal to or higher than a contractor grading designation 5EP or higher or 4EP PE as defined in the Regulations (09 June 2004 and 22 July 2005), in terms of the CIDB Act No 38 of 2000, are eligible to submit tenders for this contract.</p> <p>Joint ventures are eligible to submit tenders provided that:</p> <ul style="list-style-type: none"> 1. Every member of the joint venture is registered with CIDB 2. the lead partner has a contractor grading designation in the EP class of construction work; and 3. the combined contractor grading designation calculated in accordance with the

T1.2 TENDER DATA

	<p>Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined by the sum tendered for a CE class of construction works.</p> <p>Tenderers are advised to study Appendix B: <i>Emalahleni Local Municipality – Supply Chain Management Procurement Policy</i> when completing the Schedule and claiming points.</p>
F.2.2	<p>Compensation of Tendering</p> <p>Accept that 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 satisfy requirements.</p>
F.2.3	<p>Check Documents</p> <p>Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.</p>
F.2.4	<p>Confidentiality and Copyright</p> <p>Treat all matters arising in connection with the tender as confidential. Utilise and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.</p>
F.2.5	<p>Reference Documents</p> <p>Obtain, as and when necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached, but which are incorporated into the tender documents by reference.</p>
F2.6	<p>Acknowledge Addenda</p> <p>Acknowledge receipt of addenda to the tender documents, which the Employer may issue, and if necessary, apply for an extension of the closing date and/or time stated in the tender data, in order to take the addenda into account.</p>
F.2.7	<p>Site Briefing Meeting</p> <p>Date: Refer to T1.1 TENDER NOTICE AND INVITATION TO TENDER for date and time.</p> <p>Location: Microsoft Teams</p>
F.2.10	<p><u>Value Added Tax</u></p> <p>(a) The Valued Added Tax (VAT) rate shall be 15% or as otherwise provided for by legislation.</p> <p>(b) The successful Tenderer shall be required to produce a VAT invoice that shall only be prepared once measurements and valuations for work done in terms of the contract offer have been agreed with the Employers agent and a certificate of payment issued.</p> <p>Payment of VAT to non-VAT vendors shall be processed from the month in which the Tenderers liability with the South African Revenue Services is effective.</p>
F.2.11	<p>Alterations to Documents</p> <p>No alterations or additions must be made to the tender documents, except to comply with instructions issued by the Employer, or necessary to correct errors made by the Tenderer.</p>

T1.2 TENDER DATA

	To correct errors made, draw a line through the incorrect entry and write the correct entry above in black ink and place the full signatures of the authorised signatories next to the correct entry. The use of tippex or pencil will not be accepted.
F.2.13	<p>Submitting Tender Offer:</p> <p>No Tender document will be considered unless submitted on Council's official tender document. Return all the returnable documents to the Employer after completion.</p> <p>Tenders must be deposited in the tender box clearly marked with the tender number and project description.</p> <p>TENDER NO: ELM 14/2025</p> <p>THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE</p> <p>Location of tender Box: Main Entrance Ground Floor, Emalahleni Local Municipality Building Physical Address: EMALAHLENI LOCAL MUNICIPALITY cnr Mandela & Arras Street Emalahleni 1035</p> <p>Telephonic, telegraphic, telex, facsimile or emailed tenders will not be considered</p> <p>All tenders received by the EMALAHLENI LOCAL MUNICIPALITY will remain in the Municipality's possession until after the stipulated closing date and time.</p> <p>Accept that a tender submitted to the Employer cannot be withdrawn or substituted. No alternate tender offers will be considered.</p>
F.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.
F.2.15	The closing time for submission of tender offers is stated in the Tender Notice/Invitation to Tender.
F.2.16	The Tender offer validity period is 90 Days.
F.2.18	The Tenderer 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.
F.2.20	<p>The tenderer is required to submit a Performance Guarantee from an approved insurer within 14 days of appointment. A format is included in Part C1.3 of this document.</p> <p>The tenderer is to submit to the employer before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the Conditions of Contract identified in the contract data.</p>

T1.2 TENDER DATA

F.3.11.1	<p>The procedure for the evaluation of responsive tenders is Method 2: Functionality, Price and Preference. The responsive tender with the highest total points as defined below is the preferred tender.</p> <p>Method 2: Functionality, Price and Preference</p> <p>Evaluation Methodology</p> <p>Tenders will be evaluated on price and preference. It is important that the relevant information is included to enable the tenders to be evaluated in accordance with the procedure outlined below. All information must be submitted in a separate file. Tampering with the original tender document will render the tender non-responsive. Failure to comply with the above requirements will result in the Tender being disqualified.</p> <p>Tender evaluation points</p> <p>The value of this bid is estimated to not exceed R 50 000 000.00 (all applicable taxes included) and therefore, the 80/20 system shall be applicable.</p> <p>Preference points for this bid shall be awarded for:</p> <p>(a) Price; and</p> <p>(b) Specific Goals.</p> <p>The maximum points for this bid are allocated as follows:</p> <table border="1"><tr><th></th><th>POINTS</th></tr><tr><td>PRICE</td><td>80</td></tr><tr><td>SPECIFIC GOALS</td><td>20</td></tr><tr><td>Total points for Price and Specific Goals</td><td>100</td></tr></table> <p>Evaluation of Tenders</p> <p>The Tenderer's notice is drawn to the fact that the evaluation, adjudication and awarding of this tender will be in terms of the Supply Chain Management Policy of the ELM.</p> <p>The following steps will be followed in the evaluation process:</p> <ol style="list-style-type: none">1. Determination of whether or not tender offer is complete.2. Determination of whether or not tender offer is responsive.3. Determination of the reasonableness of the tender offer.4. Confirmation of the eligibility of preferential points claimed by the Tenderer.5. Determination of expertise and experience of the Tenderer.6. Awarding of points for the financial offer.7. Ranking of tenderer according to the total points.8. Performance of risk analysis and checking the credit record of the tenderer <p>Evaluation Criteria</p> <p>Tenders are adjudicated in terms of ELM Supply Chain Management Policy, and the following framework is provided as a guideline in this regard:</p>		POINTS	PRICE	80	SPECIFIC GOALS	20	Total points for Price and Specific Goals	100
	POINTS								
PRICE	80								
SPECIFIC GOALS	20								
Total points for Price and Specific Goals	100								

T1.2 TENDER DATA

	<p>Size of enterprise and current workload</p> <p>Evaluation of the Tenderer's position in terms of:</p> <ul style="list-style-type: none">• Previous and expected current annual turnover• Current contractual obligations• Capacity to execute the contract <p>Staffing profile</p> <p>Evaluation of the Tenderer's position in terms of</p> <ul style="list-style-type: none">• Staff available for this contract• Qualifications and experience of key staff to be utilised on this contract. <p>Proposed Key Personnel</p> <p>In this part of the tender, the Tenderer shall also supply Curriculum Vitae (CV's) for the proposed staff working on a full-time basis for the Tenderer. The CV should follow the normal professional format and include the following:</p> <ul style="list-style-type: none">• Position in the firm and within the organisation of this assignment• PDI Status (describing population group, gender and disabilities)• Educational Qualifications• Professional Registrations• Relevant Experience (actual duties performed, involvement and responsibility), including locations, dates and durations of assignments, starting with the most recent.• Language Proficiency• References (company name, individual name, position held, contact details) <p>The experience of the proposed staff is highly important. The Tenderer must ensure that, if selected, the nominated staff will be assigned, as proposed. Failure to do so may result in the annulment of any acceptance of the Tenderer's proposal and/ or any agreement entered into by the Client for the execution of the services.</p> <p>Previous experience</p> <p>The procedure for the evaluation of responsive bids will be on previous projects in which the Tenderer was involved for Emalahleni Local Municipality (ELM) projects, or other clients. Client reference letters other than ELM must be provided.</p> <p>The Tenderer shall list in the appropriate forms related projects undertaken by the member firms of the tenderer within the last five (5) years.</p> <p>Evaluation of the Tenderer's position in terms of previous experience. Emphasis will be placed on the following:</p> <ul style="list-style-type: none">• Experience in the relevant technical field• Experience in contracts of similar size• References will be contacted to obtain their input. <p>The tenderer shall provide documentation of company experience of each member of the Consortium/Joint Venture related projects</p>
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T1.2 TENDER DATA

	<p>If the tender does not meet the requirements contained in the ELM Procurement Policy, and the mentioned framework, it will be rejected by the Council, and subsequently may not be accepted by correction or withdrawal of the non-conforming deviation or reservation.</p> <p>Penalties</p> <p>The Emalahleni Local Municipality will, if upon investigation, it is found that a preference in terms of the Act and these regulations has been obtained on a fraudulent basis, or any specified goals are not attained in the performance of the contract, on discretion of the Municipal Manager, one or more of the following penalties will be imposed:</p> <ul style="list-style-type: none">• Cancel the contract and recover all losses or damages incurred or sustained from the Tenderer.• Impose a financial penalty at the discretion of Council <p>Restrict the Contractor, its shareholders and directors in obtaining any business from the Emalahleni Local Municipality for a period of 5 years</p>																								
F3.11.6	Score price, preference and functionality, as relevant to one (1) decimal place.																								
F.3.11.9	<p>Scoring functionality</p> <p>Only those tenderers who score a minimum score of 70 points in respect of the functionality criteria below will proceed to the price and preference goals.</p> <p>The Tenderer's responsiveness in relation to points is summarized as follows:</p> <table><tr><th>Schedule</th><th>Description of Quality Criteria</th><th>Maximum number of tender evaluation points</th></tr><tr><td>A</td><td>Bidders Experience</td><td>20</td></tr><tr><td>B</td><td>Quality, Environment and Safety</td><td>15</td></tr><tr><td>C</td><td>Labour Intensive Construction Certificate (LIC)</td><td>5</td></tr><tr><td>D</td><td>Experience of Key Staff</td><td>26</td></tr><tr><td>E</td><td>Registration and Affiliations</td><td>15</td></tr><tr><td>F</td><td>Bidders Physical Resources</td><td>19</td></tr><tr><td></td><td>Maximum total evaluation points for quality (M_s)</td><td>100</td></tr></table>	Schedule	Description of Quality Criteria	Maximum number of tender evaluation points	A	Bidders Experience	20	B	Quality, Environment and Safety	15	C	Labour Intensive Construction Certificate (LIC)	5	D	Experience of Key Staff	26	E	Registration and Affiliations	15	F	Bidders Physical Resources	19		Maximum total evaluation points for quality (M_s)	100
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F	Bidders Physical Resources	19																							
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F.3.17	The number of paper copies of the signed contract to be provided by the Employer is one.																								
F.4	Additional Conditions of Tender																								
F.4.1	<p>Compliance with Occupational Health and Safety Act 1993 and the 2014 Construction Regulations</p> <p>Tenderers are to note the requirements of the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2014 issued in terms of Section 43 of the Act. The tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith. Tenderers are to note that the Contractor is required to ensure that all sub-contractors or others engaged in the performance of the contract also comply with the above requirements.</p>																								

T1.2 TENDER DATA

F.4.2	<p>Claims arising after submission of tender</p> <p>No claim for any extras arising out of any doubt or obscurity as to the true intent and meaning of anything shown on the Contract Drawings or contained in the Conditions of Contract, Scope of Work and Pricing Data will be admitted by the Employer/Employer's Agent after the submission of any tender and the Tenderer shall be deemed to have:</p> <ol style="list-style-type: none"> 1) Inspected the Contract Drawings and read and fully understood the Conditions of Contract. 2) Read and fully understood the whole text of the Scope of Work and Pricing Data and thoroughly acquainted himself with the nature of the works proposed and generally of all matters which may influence the Contract. 3) Visited the site of the proposed works, carefully examined existing conditions, the means of access to the site, the conditions under which the work is to be done and acquainted himself with any limitations or restrictions that may be imposed by the Municipal or other Authorities in regard to access and transport of materials, plant and equipment to and from the site and made the necessary provisions for any additional cost involved thereby in the P&G's 4) Requested the Employer or his duly authorised agent to make clear the actual requirements of anything shown on the Contract Drawings or anything contained in the Scope of Work and Pricing Data, the exact meaning or interpretation of which is not clearly intelligible to the Tenderer. 5) Received any Addenda to the tender documents which have been issued in accordance with the Employer's Supply Chain Management Policy. <p>Before submission of any tender, the Tenderer should check the numbers of pages, and if any are found to be missing or duplicated, or the figures or writing indistinct, or if the Pricing Data contain any obvious errors, the tenderer must apply to the Employer/Employer's Agent at once to have the same rectified, as liability will be admitted by the Employer/Employer's Agent in respect of errors in any tender due to the foregoing.</p>
F.4.3	<p>Imbalance in tendered rates</p> <p>In the event of tendered rates or lump sums being declared by the Employer to be unacceptable to it because they are either excessively low or high or not in proper balance with other rates or lump sums, the Tenderer may be required to produce evidence and advance argument in support of the tendered rates or lump sums objected to. If, after submission of such evidence and any further evidence requested, the Employer is still not satisfied with the tendered rates or lump sums objected to, it may request the tenderer to amend these rates and lump sums along the lines indicated by it. The Tenderer will then have the option to alter and/or amend the rates and lump sums objected to and such other related amounts as are agreed on by the Employer, but this shall be done without altering the tender offer as tendered or, if applicable, the corrected total of prices in accordance with F.3.9.2.</p> <p>Should the Tenderer fail to amend his Tender in a manner acceptable to the Employer, the Employer may reject the Tender.</p>
F.4.4	<p>Project Funding</p> <p>The Employer receives yearly funding from various government institutions one being DMRE. As such the Employer will make funding available over multiple financial years. The next financial year's funding allocation will be communicated to the appointed Contractor as soon as the Employer has the confirmed funding information at the beginning of each financial year. The Tenderer should allow in his cost and program for the limited yearly funding.</p>
F.4.5	<p>Emalahleni Local Municipality may also request that the Tenderer provide written evidence that his financial, labour and resources are adequate for carrying out the project.</p>

T1.2 TENDER DATA

	<p>The Emalahleni 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 Tenderer. The Tenderer shall provide all reasonable assistance in such investigations.</p> <p>The Emalahleni Local Municipality reserves the right to appoint a different Contractor for each project. The Tenderer shall be required to complete the Form of Offer (C1.1) and the Bill of Quantities (C2.2) for each project.</p>
F.4.5	<p>Emalahleni Local Municipality SCM POLICY</p> <p>13.13 Sub-Contracting</p> <p>13.13.1 If feasible to subcontract for a contract above R30 Million, an organ of state must apply subcontracting to advance designated groups;</p> <p>13.13.2 If the municipality applies subcontracting as contemplated in sub-regulation 13.13.1, the municipality must advertise the tender with a specific tendering condition that the successful bidder must subcontract a minimum of 30% of the value of the contract to an Exempted Micro Enterprises (EME) or Qualifying Small Enterprise (QSE) with at least 51% owned by black people, youth, women, people with disabilities, people living in under-developed areas of townships.</p> <p>Based on the cost estimate, it is anticipated that the project will not exceed R 30 Million and hence the clause will not be applicable.</p>



EMALAHLENI LOCAL MUNICIPALITY

P O Box 3
EMALAHLENI
1035

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

T2 - TENDER FORM

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T2.1 – LIST OF RETURNABLE DOCUMENTS

T2. TENDER FORM

T2.1. LIST OF RETURNABLE DOCUMENTS

It is a condition of tender that the tender must be accompanied with the following documentation.

T2.1.1. RETURNABLES

NOTE:

Returnables not forming part of the tender document shall be compiled into a separate “returnables” file and submitted as a Volume 2 to the tender document.

Table 1: Table of Compulsory Returnables for Compliance

Tender Conditions: Page 1	MBD 1 - Invitation to Bid
Tender Conditions: Page 5	MBD 1 - Terms & Conditions for Bidding
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T2.2.2	MBD 4 - Declaration of Interest
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T2.2.13	CERTIFICATE OF CONVERSANCE WITH THE TENDER DOCUMENTS
T2.2.14	MUNICIPAL SERVICES, RATES AND TAXES CLEARANCE CERTIFICATE FOR SUPPLY CHAIN MANAGEMENT PURPOSE

Table 2: Table of Compulsory Returnables for Evaluation

T2.2.15	SCHEDULE OF PREVIOUS EXPERIENCE
T2.2.16	SCHEDULE OF CURRENT PROJECTS
T2.2.17	PROPOSED KEY PERSONNEL
T2.2.18	SCHEDULE OF PLANT, EQUIPMENT AND RESOURCES
T2.2.19	SCHEDULE OF PROPOSED SUBCONTRACTORS
T2.2.20	CERTIFICATE OF ATTENDANCE AT SITE MEETING
T2.2.21	FINANCIAL RESPONSIVENESS
T2.2.22	PROGRAMME
T2.2.23	ESTIMATED MONTHLY EXPENDITURE
T2.2.24	DECLARATION OF LOCAL INVOLVEMENT
T2.2.25	MATERIAL INFORMATION
T2.2.26	TECHNICAL SCHEDULES

T2.2 – RETURNABLE SCHEDULES

T2.2 RETURNABLE SCHEDULES

T2.2. RETURNABLE SCHEDULES

T2.2.1. MBD 2 – TAX CLEARANCE CERTIFICATE REQUIREMENTS

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations.

1. In order to meet this requirement bidders are required to complete in full attached form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Requirements are also applicable to foreign bidders / individuals who wish to submit bids.
2. SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.
3. The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.
4. In bid where Consortia / Joint Ventures / Sub-Contractors are involved, each party must submit a separate Tax Clearance Certificate.
5. Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website www.sars.gov.za
6. Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFiling through the website www.sars.gov.za

T2.2 RETURNABLE SCHEDULES

T2.2.2. MBD 4 – DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
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, shareholder²)
.....
 - 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.
.....

¹MSCM Regulations: "in the service of the state" means to be –

- (a) a member of –
 - (i) any municipal council.
 - (ii) any provincial legislature; or
 - (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.

² 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.

T2.2 RETURNABLE SCHEDULES

- 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)**
- 3.11.1 If yes, furnish particulars:.....
.....
- 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:.....
.....

Full details of directors / trustees / members / shareholders.

Full Name	Identity Number	State Employee Number

T2.2 RETURNABLE SCHEDULES

CERTIFICATION

I, THE UNDERSIGNED(*Full Name*)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

T2.2 RETURNABLE SCHEDULES

T2.2.3. MBD 6.1 - PREFERENTIAL PROCUREMENT CLAIM FORM

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

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

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

1. GENERAL CONDITIONS

- 1.1 The following preference point systems are applicable to all bids:
- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
 - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).
- 1.2 a) The value of this bid is estimated not to exceed R50 000 000 (all applicable taxes included) and therefore the 80/10 preference point system shall be applicable: or
- 1.3 Points for this bid shall be awarded for:
- (a) Price; and
 - (b) B-BBEE Status Level of Contributor.

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

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and B-BBEE must not exceed	100

- 1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.
- 1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

- 2.1 **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- 2.2 **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 2.3 **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;

T2.2 RETURNABLE SCHEDULES

- 2.4 **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.5 **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- 2.6 **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- 2.7 **“prices”** includes all applicable taxes less all unconditional discounts;
- 2.8 **“proof of B-BBEE status level of contributor”** means:
a) B-BBEE Status level certificate issued by an authorized body or person;
b) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
c) Any other requirement prescribed in terms of the B-BBEE Act;
- 2.9 **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- 2.10 **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- 2.11 **“all applicable taxes”** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- 2.12 **“comparative price”** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;
- 2.13 **“consortium or joint venture”** 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;
- 2.14 **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 2.15 **“firm price”** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 2.16 **“non-firm prices”** means all prices other than “firm” prices.
- 2.17 **“person”** includes a juristic person.
- 2.18 **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract.
- 2.19 **“total revenue”** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the Government Gazette on 9 February 2007;
- 2.20 **“trust”** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person: and
- 2.21 **“trustee”** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

T2.2 RETURNABLE SCHEDULES

3. ADJUDICATION USING A POINT SYSTEM

- 3.1 The bidder obtaining the highest number of total points will be awarded the contract.
- 3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.
- 3.3 Points scored must be rounded off to the nearest 2 decimal places.
- 3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.
- 3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.
- 3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

4.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

80/20

$$P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$$

Where

P_s = Points scored for price of bid under consideration

P_t = Price of bid under consideration

P_{min} = Price of lowest acceptable bid

4.2 POINTS AWARDED FOR SPECIFIC GOALS

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

Item no.	The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system)	Number of points claimed (80/20 system) (To be completed by the tenderer)
A total of 15 preference points shall be allocated on a proportional or pro rata basis for contracting an enterprise owned by historically disadvantaged persons or individuals who meet the following requirements -			
1.	for 100% black person or people owned enterprise	5 points	
2.	for at least 30% woman or women shareholding or owned enterprise	5 points	
3.	For at least 30% youth shareholding or owned enterprise	2.5 points	
4.	for at least 30% people living with disability shareholding or owned enterprise	2.5 points	

T2.2 RETURNABLE SCHEDULES

A total of 5 preference points shall be allocated on a proportional or pro rata basis for implementing of programmes for RDP -			
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5.	for enterprise regarded as EME located within the local area of jurisdiction.	5 points	
----	---	----------	--

The Municipality will utilize the CSD report for the above-mentioned information.

5. DECLARATION WITH REGARD TO COMPANY/FIRM

5.1 Name of company/firm:

5.2 VAT registration number:

5.3 Company registration number:.....

5.4 TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

5.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

5.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
 - ☐ Supplier
 - ☐ Professional service provider
 - ☐ Other service providers, e.g., transporter, etc.
- [Tick applicable box]

5.7 MUNICIPAL INFORMATION

Municipality where business is situated

Registered Account Number

Stand Number

5.8 TOTAL NUMBER OF YEARS THE COMPANY/FIRM HAS BEEN IN BUSINESS?

.....

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

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

T2.2 RETURNABLE SCHEDULES

- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
- disqualify the person from the bidding process;
 - recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - 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;
 - recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - forward the matter for criminal prosecution.

WITNESSES:

.....

.....

.....
SIGNATURE(S) OF BIDDER(S)

DATE:

ADDRESS:

.....

.....

T2.2 RETURNABLE SCHEDULES

T2.2.4. MBD 8 – DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

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	<p>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).</p> <p>The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	If so, furnish particulars:		
4.2	<p>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)?</p> <p>The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
	If so, furnish particulars:		
4.3	<p>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?</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

T2.2 RETURNABLE SCHEDULES

	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"/>
	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"/>
	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED *(Full Name)*

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

T2.2 RETURNABLE SCHEDULES

T2.2.5. MBD 9 - CERTIFICATE OF INDEPENDENT BID DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a per se prohibition meaning that it cannot be justified under any grounds.
3. 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.
4. 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.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

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

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

T2.2 RETURNABLE SCHEDULES

CERTIFICATE OF INDEPENDENT BID DETERMINATION (MBD 9)

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 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 consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;
 - b) geographical area where product or service will be rendered (market allocation)
 - c) methods, factors or formulas used to calculate prices;
 - d) the intention or decision to submit or not to submit, a bid;
 - 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.

T2.2 RETURNABLE SCHEDULES

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.

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

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

T2.2 RETURNABLE SCHEDULES

T2.2.6. COMPULSORY ENTERPRISE QUESTIONNAIRE

In the case of a Joint Venture – This questionnaire is to be completed and submitted in respect of each partner.

1. **Name of Enterprise:**
2. **VAT Registration number, if any:**
3. **CIDB Registration number:**
4. **Particulars of sole proprietors and partners in partnership:**

Name	Identity Number	Personal Income Tax Number

* Complete only if sole proprietor or partnership and attach separate page if more than 4 partners.

5. **Particulars of companies and close corporations:**

Company Registration Number:

Close Corporation Number:

Tax Reference Number:

6. **Record in the service of the state:**

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership of director, manager, principal stakeholder or stakeholder in a company or close corporation 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 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

T2.2 RETURNABLE SCHEDULES

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

Name of sole proprietor, partner, director, manager or principal stakeholder or stakeholder	Name of Institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within the last 12 months

Name of Tenderer :

Date :

Signature :

Position :

Full name of signatory :

T2.2 RETURNABLE SCHEDULES

T2.2.7. AUTHORITY OF SIGNATORY

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category.

A Company	B Partnership	C Joint Venture	D Sole Proprietor	E Close Corporation

A. Certificate for Company

I,, chairperson of the board of directors of hereby confirm that by resolution of the board (copy attached) taken on 20....., Mr/Ms acting in the capacity of, was authorized to sign all documents in connection with this tender for contract and any contract resulting from it on behalf of the company.

As witnesses :

1. Chairman:
2. Date:
- Tenderers must attach a copy of the Resolution of the Board.

B. Certificate for Partnership

We, the undersigned, being the key partners in the business trading as hereby authorize Mr/Ms, acting in the capacity of to sign all documents in connection with the tender for Contract and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE : This certificate is to be completed and signed by all of the key partners upon whom rests the direction of the affairs of the Partnership as a whole.

C. Certificate for Joint Venture

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 for Contractand any contract resulting from it on our behalf.

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME & CAPACITY
Lead partner		

T2.2 RETURNABLE SCHEDULES

D. Certificate for Sole Proprietor

I, , hereby confirm that I am the sole owner of the business trading as Sole owner.....

As witnesses:

1.	Signature:
2.	Date :
.....

E. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as
..... hereby authorize Mr/Ms
acting in the capacity of, to sign all documents in connection with the
tender for Contract and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE: This certificate is to be completed and signed by all of the key-partners upon who rests the direction of the affairs of the Partnership as a whole.

T2.2 RETURNABLE SCHEDULES

T2.2.8. 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
Lead Partner: CIDB Reg No:		Signature: Name: Designation:
 CIDB Reg No:		Signature: Name: Designation:
 CIDB Reg No:		Signature: Name: Designation:
 CIDB Reg No:		Signature: Name: Designation:
 CIDB Reg No:		Signature: Name: Designation:

T2.2 RETURNABLE SCHEDULES

T2.2.9. RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communication received from the Employer before the submission of this tender offer, amending the tender documents, have been considered in this tender offer:

Table 3: Addenda

DATE	TITLE

POPULATE AND SIGN “Table 1: Alterations by tenderer”

Name of Tenderer :

Date :

Signature :

Position :

Full name of signatory :

T2.2 RETURNABLE SCHEDULES

T2.2.10. PROPOSED AMENDMENTS AND QUALIFICATIONS

Tenderer's Condition of Sale or Contract printed on their own stationary will be disregarded, the Conditions which shall apply shall be those contained in these documents unless the Tenderer specifically absolves himself from any such conditions on the form "Alterations by Tenderer" contained in the "Alterations to Tender" table.

On no account shall any alterations be made to the text of these documents, or any pages removed from the binding.

Should the Tenderer desire to make any departures or modifications to the General Conditions of Contract, Specifications, Bill of Quantities or Drawings, or to qualify his/her tender in any way, he shall set out his/her proposals clearly in the table hereunder.

If no departures or modifications are desired, the Schedule hereunder is to be marked NIL and signed by the Tenderer.

FAILURE TO POPULATE AND SIGN "*Table 1: Alterations by tenderer*" SHALL RESULT IN THE TENDER OFFER BEING NON-RESPONSIVE.

Table 4: Alterations by tenderer

PAGE	CLAUSE OR ITEM

POPULATE AND SIGN "*Table 1: Alterations by tenderer*"

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.11. CLAIM FUNCTIONALITY POINTS

T2.2.11.1 BIDDERS EXPERIENCE

The following is a statement of major works of a similar nature successfully executed by myself/ourselves.

The experience of the Tenderer in similar projects or nature, or in similar areas and conditions in relation to the scope of work for **THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE**, will be evaluated.

A brief description of the tendering company/individual's experience with regards to the above scope of work must be attached to this schedule.

NB: Proof of previous work history must be attached, i.e. completion certificates or reference letters that indicates the value of work completed, etc.

A summary of the relevant work experience in line with the scope of work should be indicated in the table below: (Any additional information regarding previous work experience can be attached to this schedule).

Table 5: Experience

Employer, contact person and telephone number, where available	Description of work (service)	Value of work (i.e. the service provided) inclusive of VAT (Rand)	Date completed

The scoring of the Tenderer's experience will be as follows:

Table 6: Experience Point Allocation

No information has been provided	0 Points
No electrification projects were completed	0 Points
1-2 Completed electrification projects with a project value of R 8 million or more.	5 Points
3-4 Completed electrification projects with a project value of R 8 million or more.	10 Points
5-6 Completed electrification projects with a project value of R 8 million or more.	15 Points
7 or more completed electrification projects with a project value of R 8 million or more.	20 points

T2.2 RETURNABLE SCHEDULES

T2.2.11.2 QUALITY, ENVIRONMENT AND SAFETY

The schedule quality, environment, and safety of the tenderer in the execution of similar projects or nature or in similar areas and conditions in relation to the scope of work for **THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE**, will be evaluated.

The Tenderer shall demonstrate that they are in possession of SANAS accredited certifications or Management System documentation for Quality Management, Environmental Management and Health and Safety Management systems.

NB: Attached SANAS accredited Certification or Management System documents.

NB: Please attach proof of documentation required
Failure to submit these documents will result in no points.

The scoring of the proposed organization and staffing will be as follows:

Table 7: Quality, Environment and Safety Point Allocation

1. Valid SANAS accredited ISO:9001 Certification	5 points	Max 5 Points
2. Quality Management System document	3 points	
3. No SANAS accreditation or QMS document	0 points	
4. Valid SANAS accredited ISO:14001 Certification	5 points	Max 5 Points
5. Environmental Management System document	3 points	
6. No SANAS accreditation or EMS document	0 points	
7. Valid SANAS accredited ISO:45001 or 18001 Certification	5 points	Max 5 Points
8. Health and Safety Management System document	3 points	
9. No SANAS accreditation or HSMS document	0 points	
Total Points		Max 15 Points

T2.2.11.3 LABOUR INTENSIVE CONSTRUCTION CERTIFICATE (LIC)

The Tenderer shall submit the labour-intensive construction NQF Level 5 certificate of competence.

NB: Please attach proof of documentation required
Failure to submit the documents will result in no points.

The scoring of the proposed organization and staffing will be as follows:

Table 8: LIC Point Allocation

Labour Intensive Construction – NQF Level 5 Certificate of Competence	5 points
Labour Intensive Construction – NQF Level 5 Certificate of Attendance	3 points
No Certification submitted	0 points

T2.2 RETURNABLE SCHEDULES

T2.2.11.4 EXPERIENCE OF KEY STAFF

The schedule Experience of Key Staff of the tenderer in the execution of similar projects or nature or similar areas and conditions in relation to the scope of work for **THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE** will be evaluated.

The tenderer must provide the required CVs, originally certified qualifications, registrations and a project organogram.

NB: No personnel may hold two positions. If one person holds more than one position, points for one position will be awarded and the other points will be forfeited.

NB: Please attach proof of documentation required
Failure to submit the documents will result in no points.

The scoring of the proposed organization and staffing will be as follows:

Table 9: Experience of Staff Point Allocation

Safety Agent Construction Health and Safety Agent (PrCHSA) Construction Health and Safety Manager (CHSM) Construction Health and Safety Officer (CHSO)	7 points 5 points 3 points	Max 7 Points
Site Manager National Diploma in Electrical Engineering (Heavy Current) 3 years or more electrical experience upon obtaining qualification	4 points 3 points	Max 7 Points
Site Supervisor Installation Electrician in possession of a wireman's licenses 3 years or more electrical experience upon obtaining qualification	4 points 3 points	Max 7 Points
Electrician Electrician/Millwright in possession of trade test 3 years or more electrical experience upon obtaining qualification	3 points 2 points	Max 5 Points
Total		Max 26 Points

T2.2.11.5 REGISTRATION AND AFFILIATIONS

NB: Registration must be in the name of the Principal Contractor. In a case of JV registration must be in one of the Company's names in partnership.

NB: Please attach proof of documentation required
Failure to submit the documents will result in no points.

The scoring of the proposed organisation and staffing will be as follows:

T2.2 RETURNABLE SCHEDULES

Table 10: Registration and Affiliations Point Allocation

Valid registration with the Department of Labour as an Electrical Contractor (as an Installation Electrician or higher, in the name of the bidder) No submission	10 points 0 points
Valid registration with the Electrical Conformance Board (ECB) No submission	5 points 0 points
Total	15 Points

T2.2.11.6 EQUIPMENT

This shall be demonstrated by providing vehicle registration certificates in the company's name, letter from a reputable and contactable equipment hiring company, specifying an intent to allow Contractor to hire

NB: Please attach proof of documentation required
Failure to submit the documents will result in no points.

The scoring of the proposed organization and staffing will be as follows:

Table 11: Equipment Point Allocation

Cherry Picker Owned Leased None	7 points 4 points 0 points	Max 7 Points
Truck Mounted Crane Owned Leased None	7 points 4 points 0 points	Max 7 Points
LDV Owned Leased None	7 points 4 points 0 points	Max 5 Points
Total		Max 19 Points

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.12. CIDB REQUIREMENTS

In terms of Clause 3 of the Notes on the use of Standardized Procurement Documents for Engineering and Construction Works, October 2005, all Prime or Main Contractors must register with the Construction Industry Development Board (CIDB) according to Act 38 of 2000.

After receipt of an application the CIDB will grade the applicant according to experience in the various sections of works and financial capability.

The CIDB requirements for all contractors tendering on this project are as follows:

1. Tenderers and his subcontractor must be registered with the CIDB in an EP class of construction works.
2. Tenderers must have a CIDB Contractor Grading Designation of 5 EP/ 4 EP PE or higher. Please note that this tender will not be split and that no portion of the contract may be outsourced unless specified.
3. The tenderer shall submit the company profile and CIDB registration of the proposed sub-contractor for this project.

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.13. CERTIFICATE OF CONVERSANCE WITH THE TENDER DOCUMENTS

I / We, the undersigned hereby certify that I / We am / are fully conversant with the General and Special Conditions of Contract, Conditions of Tender, Specifications, Schedules of Quantities and Drawings.

I / We declare that I / We am / are satisfied with the description of the work and the explanations furnished by the Engineer, and that I / We fully understand the nature and extent of the work required to be executed, as specified and according to the intent of the Contract.

I / We declare that all the equipment offered in my / our tender complies with the Specifications of these Tender Documents and that the relevant Data Sheets have been completed correctly and in full.

I / We have ascertained all factors which may have a bearing on the execution of the works and the costs thereof.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

SIGNATURE

CAPACITY

T2.2 RETURNABLE SCHEDULES

T2.2.14. MUNICIPAL SERVICES, RATES AND TAXES CLEARANCE CERTIFICATE FOR SUPPLY CHAIN MANAGEMENT PURPOSE

The purpose of this form is to obtain prove that municipal services, rates and taxes of the service provider are not more than three months in arrears with the relevant municipality / landlord in the municipal area where the service provider conduct his / her business.

Where bidders are not owners of a property and cannot submit a copy of the municipal account, the following must be completed together with a duly signed lease agreement:

(TO BE COMPLETED BY THE LANDLORD)		
Name of the Landlord:		
Property Physical Address:		
Please tick below	Yes	No
Rental: in arrears for more than 3 months		
Municipal services: in arrears for more than 3 months		
Landlord Signature:		
Date: _____		
Landlord's business stamp here (where applicable)		

MUNICIPAL SERVICES, RATES AND TAXES CLEARANCE CERTIFICATE, OR LEASE AGREEMENT MUST BE ATTACHED BEHIND THIS PAGE.

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.15. PREVIOUS EXPERIENCE

Particulars of projects of similar nature to that contained in this contract to which the Tenderer is at present committed and / or involved during the last five (5) years to be submitted hereunder.

Table 12: Previous Experience

	PROJECT	PLACE	ENGINEER & TEL NO	CONTRACT AMOUNT	CONTRACT PERIOD	DATE COMPLETED	COMPLETION IN TIME (YES / NO)
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							

Is the information provided in compliance with the POPI (Protection of Personal Information) Act?

Yes ☐
No ☐

T2.2 RETURNABLE SCHEDULES

Name of Tenderer :

Date :

Signature :

Position :

Full name of signatory :

T2.2 RETURNABLE SCHEDULES

T2.2.16. CURRENT PROJECTS

Particulars of projects of similar nature to that contained in this contract to which the Tenderer is at present committed and / or involved during the last five (5) years to be submitted hereunder.

Table 13: Current Experience

	PROJECT	PLACE	ENGINEER & TEL NO	CONTRACT AMOUNT	CONTRACT PERIOD	PLANNED COMPLETION DATE
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						

Is the information provided in compliance with the POPI (Protection of Personal Information) Act?

Yes ☐
No ☐

T2.2 RETURNABLE SCHEDULES

Name of Tenderer :

Date :

Signature :

Position :

Full name of signatory :

T2.2 RETURNABLE SCHEDULES

T2.2.17. PROPOSED KEY PERSONNEL

Please attach CVs of the proposed key personnel.

In terms of the Project Specification and the Conditions of Tender, only unskilled workers from outside the local community may be utilised, if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be outsourced if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS					
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION		KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY		UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI
Site Agent, Project Managers						
Foremen, Quality Control and Safety Personnel						
Technicians, Surveyors, etc						
Artisans and other Skilled workers						
Plant Operators						
Others:.....						

The Tenderer shall attach hereto the *curriculum vitae*, in the form included hereafter, of at least the site agent, the foreman, safety officer and the project manager. The information is necessary for evaluation of the tender.

Name of Tenderer :

Date :

Signature :

Position :

Full name of signatory :

T2.2 RETURNABLE SCHEDULES

T2.2.18. SCHEDULE OF PLANT, EQUIPMENT AND RESOURCES

T2.2.18.1 LABOUR

The daywork rate for labour shall be the total hourly rate for the use of the labour inclusive of overhead and supervision costs. The time of Gangers or Charge Hands actually working with the gangs may be included in the daywork claim but the time of Foremen and Gangers is not to be included but is to be covered in the tendered rates.

Table 14: Hourly Rates

CLASS OF LABOUR	HOURLY RATE FOR		
	NORMAL HOURS	OVERTIME	SUNDAYS
Supervisor			
Artisan			
Semi-skilled			
Labour or unskilled			

T2.2.18.2 TRANSPORT

Transport cost per km for:

Vehicles less than 1 ton :

Vehicles above 1 ton :

T2.2.18.3 LIST OF CONSTRUCTION EQUIPMENT

The Tenderer is requested to indicate what equipment and plant is immediately available, what equipment is ordered but not yet delivered and what equipment will be purchased in the event of this Contract being awarded to the Tenderer.

EQUIPMENT IMMEDIATELY (WITH HOURLY RATES) AVAILABLE FOR THIS CONTRACT

Table 15: Equipment Available

TYPE OF EQUIPMENT	CONDITION	RATE (R/h)

T2.2 RETURNABLE SCHEDULES

EQUIPMENT (WITH HOURLY RATES) ON ORDER WHICH ON DELIVERY WILL BE USED FOR THIS CONTRACT

Table 16: Equipment on order

TYPE OF EQUIPMENT	SUPPLIER	DELIVERY PERIOD	RATE (R/h)

EQUIPMENT (WITH HOURLY RATES) TO BE PURCHASED IF THIS TENDER IS ACCEPTED

Table 17: Equipment to be ordered

TYPE OF EQUIPMENT	SUPPLIER	DELIVERY PERIOD	RATE (R/h)

After the Contract has been awarded the Contractor will have to satisfy the Engineer that the above-mentioned equipment, or equivalent, will be on site when required. The Contractor will maintain the equipment in good working order for the full duration of the Contract. The Contractor also undertakes to bring any additional equipment, without additional cost to the Employer, onto the Site when it is in the opinion of the Employer necessary to complete the Contract within the Contract period.

NOTE:

The hourly rates for equipment, must include diesel, operator / driver and all maintenance and transport cost to and from the site.

Name of Tenderer :

Date :

Signature :

Position :

Full name of signatory :

T2.2 RETURNABLE SCHEDULES

T2.2.19. SCHEDULE OF PROPOSED SUBCONTRACTORS

Appointment of the proposed sub-contractors is subject to approval by EMALAHLENI LOCAL MUNICIPALITY (ELM) in accordance with the ELM Supply Chain Management Policy.

NAME OF SUB-CONTRACTOR	FULL DESCRIPTION OF WORK TO BE PERFORMED BY SUB-CONTRACTOR

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.20. CERTIFICATE OF ATTENDANCE AT SITE MEETING

I / We acknowledge that the tender briefing was attended by a company representative able to relay the presentation of the works and/ or matters incidental to doing the works in the tender document in order for me/ us to take account of everything necessary when compiling our rates and prices included in the tender.

I/we acknowledge that the attendance register will be used to confirm our company's presence and if found to be absent, will lead to our tender being disqualified.

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.21. FINANCIAL RESPONSIVENESS

I / We agree, if required, to furnish audited copies of the required financial statements, together with my / our Director's and Auditor's report, for the current, unaudited financial year, including management statements for each month, for consideration by the Employer.

T2.2.21.1 FINANCIAL INFORMATION

a) Turnover in the last three (3) financial years:

2022 / 2023:

2023 / 2024:

2024 / 2025:

b) Financial Year starts on and ends on

c) Average monthly **income** over the last three financial years:

d) Average monthly **expenses** over the last three financial years:

e) Average monthly **profit** over the last three financial years:

f) Average monthly **cash funds** over the last three financial years:

g) Value of the **largest** completed project in the last three years (excluding VAT):

R.....

h) **Average** value of projects completed in the last five years (excluding VAT):

R.....

i) Highest (combined) total value of debtors at any given period during the last three financial years:

R.....

j) Lowest (combined) total value of debtors at any given period during the last three financial years:

R.....

k) Debtors at tender closing:

> Current (excl. VAT):

> 30 days (excl. VAT):

> 60 days (excl. VAT):

> 90 days (excl. VAT):

In excess of 120 days :
(excl. VAT)

l) Creditors at tender closing:

> Current (excl. VAT):

> 30 days (excl. VAT):

> 60 days (excl. VAT):

> 90 days (excl. VAT):

In excess of 120 days :
(excl. VAT)

T2.2 RETURNABLE SCHEDULES

m) Management statements for all months in the current financial year included: **Yes / No**
(delete which is not applicable)

n) Name of accountant :
Qualifications :
Signature :
Date :

SIGNED AT

ON THIS.....DAY OF2025.

ON BEHALF OF

.....

SIGNATURE:

AS WITNESSES:

1.

2.

T2.2 RETURNABLE SCHEDULES

T2.2.22. PROGRAMME

1. Has the site been inspected by the Tenderer? YES / NO
2. Date of inspection
3. Has a thorough method study been made of the proposed execution of the project? YES / NO
4. Has a preliminary construction programme been prepared for the project and accompanying the tender? YES / NO

ALL PERIODS TO BE CALCULATED FROM DATE OF RECEIVING AN APPOINTMENT LETTER.

5. Period required to commence work: days
6. Period required to establish site: days
7. Period required for material delivery: days
8. Period to first delivery of material: days
9. Period to last delivery of material: days
10. Period required to complete the project: days
(Should be the same as the Letter of Tender AND the project programme)

I / We accept responsibility for late delivery of material and will enter into agreements with our suppliers of material to forward penalties accruing from claims due to late delivery of materials.

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.23. ESTIMATED MONTHLY EXPENDITURE (CASH FLOW)

The Tenderer shall, in the table below, state the estimated value of work to be completed every month, based on his preliminary program and his tendered unit rates. Amounts for contingencies and contract price adjustment shall not be included.

Table 18: Cash Flow

MONTH	VALUE
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
SUBTOTAL	R
Plus: 5 % Retention	R
TOTAL	R

Note: Preference will be given to tenderers that can provide bridging financing.

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.24. DECLARATION OF LOCAL INVOLVEMENT

I / We the undersigned declare that it is the intent of
..... (*Firm's name in Block Letters*) to stimulate the local economy by
providing employment to local residents as summarised below.

I / We are fully aware and understand that this declaration is legally binding, and that a detailed Local Involvement Program and Local Involvement Monthly Return will have to be submitted to the Engineer in accordance with the requirements and provisions stipulated in Clause 2.4 of the Detail Specification, and in the format prescribed by the Engineer.

Table 19: Local Involvement

LOCAL INVOLVEMENT	PART OR TYPE OF WORK	MONETARY VALUE (R)
Local Labour Content		R
Local Sub-Contractors		R
Material Purchased from Local Suppliers		R
Other (Specify)		R
TOTAL (Excl. VAT)		R

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.25. MATERIAL INFORMATION

Where a certain manufacturer's material or apparatus are mentioned in the drawings or specifications, such materials or apparatus shall be provided as specified, excepting where an alternative to this condition is allowed in the specifications. Where a detailed specification for material or apparatus is not provided, it shall be understood that all normal requirements for the use of such material or equipment shall apply.

Where certain products of a specified manufacturer are unobtainable, substitutes may be offered but shall only be supplied after written consent has been given by the Employers Representative.

All apparatus, components, fittings, and material supplied and / or installed, whether expressly specified herein or not, shall conform in respect of quality, manufacture, tests and performance, with the requirements of the South African Bureau of Standards and / or the appropriate current "British Standard Specifications and Addenda thereto", except where otherwise specified or permitted by the Employers Representative in writing.

The Employers Representative may order the elected contractor to supply and / or deliver and / or install any other make or manufacture of article(s) than that / those for which the contractor tendered. The unit total cost of such item(s) taken out, shall then be subtracted from the tender sum of the contractor and the unit total of such other apparatus, component parts, fittings and / or materials, with which these are replaced, if any, shall be added to the tender price.

The price of such items added or omitted shall be calculated by using the current general wholesale prices at which the Electrical Contractor can buy such equipment. The Employers Representative decision for the determination of such prices shall be final.

Installation work which has been started with certain materials and / or equipment shall be completed by using the same manufacture of articles or equipment throughout the whole project, for that specific application, unless specified otherwise.

Table 20: Equipment Delivery & Manufacturers

	DELIVERY PERIOD	TYPE	MANUFACTURER
Wooden Poles			
22 kV Insulators			
Powerline Hardware			
Conductor			
Stays			
Pole boxes			
Ready boards			
MV assemblies			
LV assemblies			

Name of Tenderer:

Date:

Signature:

Full name of signatory:

T2.2 RETURNABLE SCHEDULES

T2.2.26. TECHNICAL SCHEDULES

The Technical Schedules shall be populated by the contractor / OEM. Failure to complete any schedule may result in the bid submitted being disqualified.

At no stage during the delivery of the works may the contractor change supplier / manufacturer without the written consent from the Engineer.

TECHNICAL A-B SCHEDULES:

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied (to be completed by tenderer)

Name of Tenderer:

Date:

Signature:

Full name of signatory:

GSE01 – TECHNICAL SCHEDULE ELECTRICAL

OVERHEAD RETICULATION (22kV and below)

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2. TECHNICAL DATA SCHEDULES 1

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TABLE OF FIGURES

NO TABLE OF FIGURES ENTRIES FOUND.

1. GENERAL

The general requirements for Overhead Power Lines (22kV and below) are covered by SANS 10280.

The detailed project requirements shall be covered in the Project Specifications, Drawings and Bill of Materials.

2. TECHNICAL DATA SCHEDULES

2.1. MV CONDUCTORS

- Supplier :
- Code name :
- Material of conductor :
- Number and diameter of wires :
- Delivery period : weeks
- In accordance with the specification : Yes/ No

2.2. LV CONDUCTORS

- Supplier :
- Code name :
- Material of conductor :
- Number and diameter of wires :
- Delivery period : weeks
- In accordance with the specification : Yes/ No

2.3. HOUSE CONNECTION CONDUCTORS

- Supplier :
- Code name :
- Material of conductor :
- Number and diameter of wires :
- Delivery period : weeks

- In accordance with the specification : Yes/ No

2.4. INSULATORS

2.4.1. LONG ROD INSULATORS (22 KV)

- Material :
- Insulator type number :
- Maximum working load :
- Minimum failing load :
- Outside diameter :
- Distance between centre of unit : mm
- Mass of unit : kg
- Minimum dry flashover : kV
- Minimum wet flashover : kV
- Minimum puncture voltage : kV
- In accordance with the specification : Yes / No

2.4.2. POST INSULATORS (22 KV)

- Material :
- Insulator type number :
- Maximum working load :
- Minimum failing load :
- Outside diameter :
- Distance between centre of unit : mm
- Mass of unit : kg
- Minimum dry flashover : kV
- Minimum wet flashover : kV

**OVERHEAD POWERLINES
(22kV AND BELOW)**

- Minimum puncture voltage : kV
- In accordance with the specification : Yes / No

2.5. POLES

- Supplier :
- Delivery Period :
- Type (wood, concrete, steel, etc.) :
- If wood – please specify :
- MPa :
- Tip Load (if applicable) :

2.6. STAYS WIRE

- Number and diameter of wires :

2.7. STAY ROD

- Type :
- Size :
- Stay plate size : weeks
- In accordance with the specification : Yes/ No

2.8. SURGE ARRESTORS (11 KV)

- Manufacturer :
- Type :
- Nominal rating :
- In accordance with the specification : Yes/ No

2.9. ON-LOAD LINKS

- Manufacturer :
- Type :

OVERHEAD POWERLINES
(22kV AND BELOW)

- Current rating : Ampere
- In accordance with the specification : Yes/ No

2.10. OFF-LOAD HUKLINKS

- Manufacturer :
- Type :
- Current rating : Ampere
- In accordance with the specification : Yes/ No

2.11. PREFORM DEAD-END TERMINATIONS

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.12. CLEVIS THIMBLE CLAMPS

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.13. PARALLEL GROOVE CLAMPS

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.14. PREFORM TOP TIES

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.15. PREFORM SIDE TIES

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.16. PREFORM ARCING HORNS

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.17. PREFORM WRAPLOCK TIES

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.18. PREFORM FULL TENSION SPLICES

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.19. PORCELAIN POST INSULATOR CAPLESS

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

2.20. MV STAY INSULATOR

- Manufacturer :
- Type :
- In accordance with the specification : Yes/ No

OVERHEAD POWERLINES
(22kV AND BELOW)

SIGNED ON BEHALF OF TENDERER

COMPANY NAME :

SIGNATURE :

NAME IN BLOCK LETTERS :

DATE :

---ooOoo---

GSE19 – TECHNICAL SCHEDULE ELECTRICAL

DISTRIBUTION TRANSFORMERS
POLE AND GROUND-MOUNTED
TRANSFORMERS UP TO 33KV
AND 1MVA

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Table 2: Distribution Transformer Deviation Schedule 6

TABLE OF FIGURES

NO TABLE OF FIGURES ENTRIES FOUND.

1. GENERAL

The general requirements for pole and ground mounted distribution power transformers rated up to 33 kV and 1 MVA are covered by Eskom specification 240-45395762 and SANS 780.

The detail project requirements shall be covered in the Project Specification, Drawings and Bill of Quantities.

2. TECHNICAL A & B SCHEDULE

Schedule A: Purchaser's specific requirements

Schedule B: Particulars of equipment to be supplied (to be completed by tenderer)

Table 1: Technical Schedule (315 kVA)

Sub Clause of SANS 780	Description	Schedule A	Schedule B
	Number of units required		
	a) firm	3	xxxxxxxxxx
	b) optional	0	xxxxxxxxxx
4	Nominal rating	315 kVA	xxxxxxxxxx
	Rating of low-voltage neutral terminal, if other than as specified kVA	xxxxxxxxxx	xxxxxxxxxx
4.5	Primary voltage V	22 000	xxxxxxxxxx
	Secondary voltage V	420 / 242	xxxxxxxxxx
	Number of phases	Three-phase	xxxxxxxxxx
4.6	Insulation level (see table 3)	xxxxxxxxxx	xxxxxxxxxx
	a) medium-voltage kV	150	
	b) low-voltage kV	30	
5.2	Tapping's	Yes	xxxxxxxxxx
4.8	Losses, if other than as specified	xxxxxxxxxx	xxxxxxxxxx
	a) no-load losses W	xxxxxxxxxx	
	b) load losses W	xxxxxxxxxx	
6.1.3	Vector symbol	Dyn11	xxxxxxxxxx
8.3	Dimensions	xxxxxxxxxx	xxxxxxxxxx

DISTRIBUTION TRANSFORMERS

Sub Clause of SANS 780	Description	Schedule A	Schedule B
	a) overall height mm	xxxxxxxxxx	
	b) overall length mm	xxxxxxxxxx	
	c) overall width mm	xxxxxxxxxx	
	d) Total mass kg	xxxxxxxxxx	
8.4	Constructional details and fittings (see table 4)	Pole Mounted	xxxxxxxxxx
8.9	Tank type	Sealed	Plain/radiators / corrugated
8.9.4	Expansion Space %	xxxxxxxxxx	
8.9.6	Tank cases of sealed transformer to be bolted if so agreed	No	
8.9.11	Pressure-relief device	No	
8.10	Conservator	No	xxxxxxxxxx
8.13.1	The type of arrangement required in an air- filled arrangement	xxxxxxxxxx	
8.13.2	Number and type of connection required		xxxxxxxxxx
8.14	Terminations	LV-Cable Box MV-Outdoor	xxxxxxxxxx
	Medium-voltage bushings:	xxxxxxxxxx	xxxxxxxxxx
	a) material	xxxxxxxxxx	
	b) creepage distance mm	31mm/kV	
	BIL kV	150	
	Low-voltage bushings	0.420	
	a) material	xxxxxxxxxx	
	b) creepage distance mm	31mm/kV	
	BIL kV	30	
	Number of conductors per terminal kV	xxxxxxxxxx	
	Position of bushings	xxxxxxxxxx	

DISTRIBUTION TRANSFORMERS

Sub Clause of SANS 780	Description	Schedule A	Schedule B
8.14.2	The form of protection against accidental contact with an MV overhead line connection		
8.14.3	The mounting position of bushings		xxxxxxxxxx
8.15	Mounting of an MV surge arrester on a transformer with outdoor bushings		xxxxxxxxxx
8.16	Breather type	xxxxxxxxxx	
8.17	Oil-level gauge (<400 kVA sealed)	Yes	xxxxxxxxxx
8.20	Under base	Flat	xxxxxxxxxx
8.20.4	Fixing hole spacing details	xxxxxxxxxx	
8.20.5	Ground-mounted transformers	xxxxxxxxxx	xxxxxxxxxx
8.21	Details of jacking pads for transformers smaller than 630 kVA	xxxxxxxxxx	
8.23	Corrosive environment	High	xxxxxxxxxx
	Colours of finishing coats, if different from standard	Avocado Green	
8.24.1	Insulating material, if other than as specified	Oil	
8.24.3	Cooling method	ONAN	xxxxxxxxxx
8.25.1	Overload protection %	Yes	
	Open / close convention, if other than as specified	xxxxxxxxxx	
8.25.2	MV fuse	Yes	xxxxxxxxxx
8.26	Number of phases, rated primary and secondary no-load voltages	xxxxxxxxxx	
8.27	Impedance voltage, if other than as specified	4,5 %	
10	Tests	xxxxxxxxxx	xxxxxxxxxx
10.2	Number of copies of routine test results to be provided	Five	xxxxxxxxxx
10.3	Details of previous type test results	xxxxxxxxxx	
		xxxxxxxxxx	
	Type test certificate serial numbers and dates	xxxxxxxxxx	

Sub Clause of SANS 780	Description	Schedule A	Schedule B
10.3.3	The sequence of panels of depth exceeding 260 mm in the corrugated tank fatigue test	xxxxxxxxxx	
10.4.1	Short-circuit withstand test required	Yes – provide type test results	xxxxxxxxxx
10.4.3	Sound level determination required	Yes – provide type test results	xxxxxxxxxx
	Winding Material	Aluminium	xxxxxxxxxx
	Manufacturer	xxxxxxxxxx	

Part 2 – Optional Fittings

Sub Clause of SANS 780	Description	Schedule A	Schedule B
C.1	Current transformers	No	xxxxxxxxxx
	a) type required (mounting details)	xxxxxxxxxx	xxxxxxxxxx
	b) ratio	xxxxxxxxxx	xxxxxxxxxx
C.2	Gas-actuated and oil-actuated relay	No	xxxxxxxxxx
	Type	xxxxxxxxxx	
C.3	Thermometer pockets	Yes	xxxxxxxxxx
C.4	Indicating thermometer	Yes	xxxxxxxxxx
C.4.2	Type of indicating thermometer		
C.4.4	Alarm contacts details		
C.6	Wheels and axles, if required	No	xxxxxxxxxx
	Turns ratio of windings at rated voltage	xxxxxxxxxx	
	Turns ratio corresponding to tappings	xxxxxxxxxx	
	Tapped winding	MV	
	Load loss at rated current corrected to a reference temperature of 75 °C W	xxxxxxxxxx	
	Impedance voltage related to the principal % tapping	4.75%	

Sub Clause of SANS 780	Description	Schedule A	Schedule B
	Internal winding connection symbol	xxxxxxxxxx	

Part 3 – Particulars of transformer for parallel operation

Sub Clause of SANS 780	Description	Schedule A	Schedule B
	Turns ratio of windings at rated voltage	N/A	xxxxxxxxxx
	Turns ratio corresponding to tapings	N/A	xxxxxxxxxx
	Tapped winding	N/A	xxxxxxxxxx
	Load loss at rated current corrected to a reference temperature of 75 °C W	N/A	xxxxxxxxxx
	Impedance voltage related to the principal tapping %	N/A	xxxxxxxxxx
	Internal winding connection symbol	N/A	xxxxxxxxxx

3. TECHNICAL A-B DEVIATION SCHEDULE (DISTRIBUTION TRFR)**Table 2: Distribution Transformer Deviation Schedule**

Any deviations offered to this specification shall be listed below with reasons for deviation. In addition, evidence shall be provided that the proposed deviation will at least be more cost effective than the specification.		
Item	Sub-clause SANS1029	Proposed deviation

SIGNED ON BEHALF OF TENDERER

COMPANY NAME :

SIGNATURE :

NAME IN BLOCK LETTERS :

DATE :

---ooOoo---



EMALAHLENI LOCAL MUNICIPALITY

P O Box 3
EMALAHLENI
1035

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

C1 – CONDITIONS OF CONTRACT

CONTENTS – CONDITIONS OF CONTRACT

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C1.1 – FORM OF OFFER AND ACCEPTANCE

C1.1 FORM OF OFFER AND ACCEPTANCE

C1. CONDITIONS OF CONTRACT

C1.1. FORM OF OFFER AND ACCEPTANCE

C1.1.1. LETTER OF TENDER (MBD 3.1)

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works: **THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE**

The Tenderer, 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 Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer 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 Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s) _____

Name(s) _____

Capacity _____

For the tenderer _____

(Name and address of organisation)

Name & Signature
of Witness

Name

Date

C1.1 FORM OF OFFER AND ACCEPTANCE

ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Tenderer'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 Tenderer's Offer shall form an agreement between the Employer and the Tenderer 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
- Part 5 Additional Documentation

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 Tenderer 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 Tenderer 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 Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations. Unless the Tenderer (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 tenderer _____

(Name and address of organisation)

Name & Signature

Of Witness

Name

Date

C1.1 FORM OF OFFER AND ACCEPTANCE

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 Tenderer'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 _____
6	Subject _____
	Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer 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 Tenderer 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 Tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

C1.1 FORM OF OFFER AND ACCEPTANCE

FOR THE TENDERER:

Signatures (s) _____

Name(s) _____

Capacity _____

(Name and address of Organisation)

Name & Signature

Of Witness _____ Date _____

FOR THE EMPLOYER

Signatures (s) _____

Name(s) _____

Capacity _____

(Emalahleni Local Municipality – Mandela Street)

Name & Signature

Of Witness _____ Date _____

**C1.2 – PART 1: GENERAL CONDITIONS OF
CONTRACT**

C1.2. GENERAL CONDITIONS OF CONTRACT (PART 1)

PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF CONTRACT

The Conditions of Contract are the *General Conditions of Contract for Construction Works (2015)* published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institute of Civil Engineering (Tel: 011 805 5947).

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

PART 1: Data provided by the Employer

Clause	Data
1.1.1.15	The Name of the Employer is Emalahleni Local Municipality
1.2.1.2	The address of the Employer is: C/o Mandela & Arras Streets eMalahleni 1035 Telephone: 013 690 6300 Facsimile: 013 690 6207
5.8.1	The special non-working days are the official builder's holiday plus all statutory public holidays. The year-end break commences on 15 December and ends on 5 January .
5.13.1	The penalty for failing to complete the works is 3,75c per R100 per day of the contract value.
6.2.1	Public liability insurance to a maximum of R1 million.
5.2.1	The Contractor shall commence executing the Works within 14 days from the Commencement Date.
5.5.1 1.1.1.14	The Works shall be completed within the timeframe stated by the contractor at tender stage.
5.6.1	The Contractor shall deliver his programme of work within 14 days.
8.6.1.1.2	The value of the materials supplied by the Employer to be included in the insurance sum is nil.
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is nil.
5.1.1	The Works shall be completed within the timeframe stated by the contractor

PART 1: DATA PROVIDED BY THE CONTRACTOR

The Contractor is advised to read the *General Conditions of Contract for Construction Works (3RD EDITION 2015)*, published by the South African Institution of Civil Engineering, in order to understand the implications of this Data which is required to be completed.

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

Clause	Data
1.1.1.9	The Contractor is: Name:
1.2.1.2	The Address of the Contractor is: Address (physical): Address (postal): Telephone: Facsimile: E-mail:
6.5.1.2.3	The percentage allowance to cover overhead charges is

C1.3 – FORM OF SECURITIES

C1.3: FORM OF SECURITIES

C1.3. FORM OF SECURITIES

FORM OF GUARANTEE

TENDER NO: ELM 14/2025

THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE

WHEREAS at
EMALAHLENI LOCAL MUNICIPALITY
(hereinafter referred to as "the Employer")

entered into, on this day of 2025, at

a Contract with at
.....
(hereinafter called "The Contractor")

for the **THE ELECTRIFICATION OF 341 UNITS AT HLALANIKAHLE** as per Scope of work 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 execution 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.....).
5. We hereby choose domicilium citandi et executandi for all purposes arising hereof at
.....

C1.3: FORM OF SECURITIES

IN WITNESS WHEREOF this guarantee has been executed by us at on
this..... day of 2025

As witnesses:

1.

Signature

2.

Duly authorised to
sign on behalf of

Address

.....

.....



EMALAHLENI LOCAL MUNICIPALITY

P O Box 3
EMALAHLENI
1035

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

C2 – BILL OF QUANTITIES

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C2.1 – PRICING INSTRUCTION

C2.1 PRICING INSTRUCTION

C2. BILL OF QUANTITIES

C2.1. PRICING INSTRUCTION

C2.1.1. PREAMBLE

1. This Schedule of Quantities forms part of the Contract Documents as listed in the Schedule of Documents and shall be read in conjunction with the General Conditions, the Specifications and the Drawings and must be submitted, duly completed, on the closing date of Tenders.
2. The short description of items in the Bill of Quantities are for identification purposes only, the work covered by the items being fully specified in the relevant clauses in the Specifications. The Tenderer must therefore allow in the unit price for ordering, obtaining, supplying, delivering to site, installation, and commissioning of the relevant equipment with their accessories.
3. Except where Sum Amounts are required or where Provisional Amounts have been indicated, the Tenderer shall enter an applicable rate in the Rate Column of the Schedule of Quantities for each scheduled item. He shall also enter an applicable sum in the Amount Column for each scheduled item. Should the Schedule not be completed in the manner herein specified, the tender may either be rejected, or the Contractor will not be paid for items against which rates or sum amounts, as applicable, have not been entered. In the event of the latter procedure items not paid for will be regarded as covered by other rates entered in the Schedule of Quantities.
4. Tenderers must complete the Schedule of Quantities and fill in the unit rates for material and labour as well as total amount for each item. The unit rate is for a single item only. Errors of the arithmetic calculation to calculate the total amount, as entered in the Schedule may be corrected by the Employer but rates will be binding.

An example of the calculations are as follows:

ITEM	DESCRIPTION	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1	Supply and install a 9 m wood pole	No	100	R20,00	R100,00	R12 000,00
2	Excavate pole hole	m ³	100	R50,00	R0,00	R5 000,00
3	Supply and install 10 mm ² , 3-core cable	m	50	R5,00	R20,00	R1 250,00
4	Head office overhead cost	Sum	1	-	-	R15 000,00
TOTAL CARRIED FORWARD TO SUMMARY						R33 250,00

5. Tenderers are advised to check their items extensions and total additions as too many arithmetical errors occurring in the priced Schedule of Quantities will disqualify the Tenderer. Under no circumstances shall the Tenderer be permitted to change the specified quantities in the QTY column which will result in rejecting the tender or changing the quantity to the initial value and correcting the arithmetic's. If the Tenderer disagree with the quantity, he must do so by means of an accompanied letter with full description and reference to the particular item.
6. The quantities reflected in the Schedule of Quantities are approximate only and do not necessarily represent the actual amount of work to be done. Allowance for off-cuts and scrap shall be allowed for in the unit rates. The Contract Price for the completed Contract shall be computed from the actual quantities of authorised work done to the satisfaction of the Engineer valued at the prices tendered against the respective items in the Bill of Quantities and shall include such authorised provisional amounts and items of extra work as have become payable in terms of the Contract Documents. Extra material shall not be paid for and shall be removed from site.
7. The Contractor shall submit equipment technical data sheets and measured quantities for approval prior to placing any equipment orders. This information shall be submitted by the Contractor to the Engineering within 14 days of being appointed.

C2.1 PRICING INSTRUCTION

8. Unit prices quoted in the Schedule of Quantities must include for such small installation materials as are required for the complete installation in accordance with the Specifications.
9. Payment based on the rates tendered in the Schedule shall cover all the services and incidentals included in the works covered by the Contract and shall be made in accordance with the General Conditions, the Specifications and the Agreement pertaining to the Contract.
10. Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Documents, all costs shall be deemed to have been provided for and included in the unit rates and sum amounts tendered for the items scheduled in the Schedule of Quantities and separate additional payment will not be made.
11. Writing in the Schedule must be done in black to facilitate clear photocopying.
12. The Contractor shall keep record of all material delivered to site and shall submit such record to the Engineer at every site inspection. Material not installed shall be kept in the site yard or store and the material shall be kept readily available for inspection.
13. Application for payment, accompanied by supporting documentation, shall be submitted to the Engineer on a predetermined date which date shall be a suitable date in each month, agreed upon by all parties concerned with the payment. Claims for additional work in a particular month, for which no written instruction has not yet been issued, if applicable, must also accompany the monthly application for payment. Late claims will not be considered.
14. **All unit rates and sum amounts shall exclude Value Added Tax, as applicable from 1 October 1991 and in accordance with the ruling rate as laid down by the Government, and all prices shall be quoted in South African currency.**
15. The Contractor's attention is drawn to the fact that the allowance for PROVISIONAL AMOUNTS/SUMS for escalation in costs and allowance for contingencies shall only be spent at the discretion of the Engineer and will fall away in part or in whole if not required. It is emphasized that prior to any variation, official approval must be granted.
16. Bidders must keep a copy of the completed excel spreadsheet BOQ which may be required during the evaluation processes. Failure to comply with the above-mentioned terms and conditions will deem your bid disqualified.

SIGNATURE:

SIGNED BY:

DATE:

C2.2 – BILL OF QUANTITIES

C2.2: BILL OF QUANTITIES

C2.2. BILL OF QUANTITIES

BILL OF QUANTITIES:
THE CONSTRUCTION OF ELECTRICAL RETICULATION NETWORK IN HLALANIKAHLE
LIST A: PRELIMINARY AND GENERAL

ITEM	DESCRIPTION	UNIT	QTY	UNIT RATE	TOTAL
1.	PRELIMINARIES AND GENERAL				
	Amount allowed for all expenses, regarding the following:				
1.1	CONTRACTUAL REQUIREMENTS - FIXED AMOUNT				
1.1.1	Nett price for the fulfilment of the Tender Requirements, Conditions of Contract and Performance Security/Security Bond. Performance Security to remain valid until date of issue of the Final Completion Certificate or within 28 days after expiry Defects Notification Period.	Sum	1		
1.1.2	Insurance of the Works in the joint names of the Employer and Contractor, Insurance of the Construction Plant to its full replacement value and Third Party Insurance	Sum	1		
1.1.3	Site establishment, which includes site office, site store, laydown area, temporary housing, security fence, sanitary, toilets, obtaining water, electrical connection, etc.	Sum	1		
1.1.4	Pegging and surveying of the route by a qualified surveyor: MV route including all pole positions, anchors, stand boundaries for cable positions, etc.	Sum	1		
1.1.5	Pegging and surveying of the route by a qualified surveyor: LV route including all terminal pole and bend points, etc.	Sum	1		
1.1.6	Pegging and surveying of the route by a qualified surveyor: Informal settlement to determine pole positions, anchors, stand boundaries for cable positions, etc.	Sum	1		
1.1.7	Surveying of the as-built route by a qualified surveyor: MV route including all pole positions, anchors, stand boundaries for cable positions, etc.	Sum	1		
1.1.8	Reinstating of missing S.G. pegs prior to construction of any works and obtaining Surveyors Certificate of Compliance by a Professional Land Surveyor	Sum	1		
1.1.9	Determining and locating of existing services as well as management of wayleaves throughout the delivery of the works	Sum	1		
1.1.10	Erecting of temporary obstructions and barricades	Sum	1		
1.1.11	CONSTRUCTION NOTICE BOARD (mm. 2600 X 1600)	Each	1		
1.1.12	Cleaning of the site, removal of all refuse, rubble, rock, etc. prior to handing over of every phase	Sum	1		
1.1.12.1	Obtaining access to the Eskom Website (//scot.eskom.co.za) for access to the relevant Eskom Standards and compile a site manual complete with all relevant Eskom DT drawings.	Prov Sum	1		
1.1.12.2	Overheads, charges and profit on above (Maximum of 10 % allowed)	%	10%		
1.1.13	Tools, material, safety clothing, and the appropriate PPE for the labourers (incl. local labourers) to conduct their work in accordance with safety requirements	Sum	1		

BILL OF QUANTITIES:
THE CONSTRUCTION OF ELECTRICAL RETICULATION NETWORK IN HLALANIKAHLE
LIST A: PRELIMINARY AND GENERAL

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ITEM	DESCRIPTION	UNIT	QTY	UNIT RATE	TOTAL
1.1.14	Medical evaluation and induction cost for all staff	Sum	1		
1.1.15	As built drawings and manuals (5 x sets). As built to include surveying of the works by a qualified surveyor, i.e. MV and LV conductors, equipment positions and any relevant site information (drawings to be issued in CAD format)	Sum	1		
1.1.16	Removal from site following completion of the Works	Sum	1		
1.1.17	Temporary removal from site for an undetermined period following completion of a section of the work and re-establishment to complete the remainder of the Works	Sum	1		
1.1.18	Compile a detailed Quality Control Program for construction activities.	Sum	1		
1.1.19	SEQUENCE OF WORK				
	Allow adequately to adhere to Municipalities switching procedures, obtaining and signing of permits, arranging outages, giving notices	Days	30		
1.2	COMPLY WITH THE FOLLOWING SAFETY, HEALTH, ENVIRONMENTAL AND QUALITY (SHEQ) REQUIREMENTS - FIXED AMOUNT				
1.2.1	Compile a Health and Safety Plan (H & S Plan)	Sum	1		
1.2.2	Compile a Risk Assessment for activities (RA)	Sum	1		
1.2.3	Comply with Environmental Management Plan (EMP)	Sum	1		
1.2.4	Submit proof of calibration of equipment, e.g. Crimper, HV test apparatus, breaking failure test of terminations and joints of ACSR OH Lines etc.	Sum	1		
1.2.5	Compile a SHEQ File to also include all the above distinct sections	Sum	1		
1.2.6	Construction work notification and permit application (assist the Employer to obtain a construction permit)	Sum	1		
1.3	TOTAL TIME RELATED COST BASED ON MONTHLY EXPENDITURE - ADJUSTABLE WITH CONTRACT PERIOD				
		Sum	1		
	The running cost of the project related to the contract period, which will also be used to adjust the cost if an event occurs that becomes the Employers Risk				
1.3.1	Head office overhead cost and contractual obligations	Month	12		
1.3.2	Site overhead cost	Month	12		
1.3.3	Material-store cost on site	Month	12		
1.3.4	Material-store cost off site	Month	12		
1.3.5	Maintenance of setting out of the works by a qualified surveyor	Month	12		

BILL OF QUANTITIES:
THE CONSTRUCTION OF ELECTRICAL RETICULATION NETWORK IN HLALANIKAHLE
LIST A: PRELIMINARY AND GENERAL

ITEM	DESCRIPTION	UNIT	QTY	UNIT RATE	TOTAL
1.3.6	Contracts Manager/ Contractor's Representative : Office and Site based	Month	12		
1.3.7	Health, Safety and Environmental Officer	Month	12		
1.3.8	Site Supervisor / Planner : Office and Site based	Month	12		
1.3.9	Site Agent and SHE Representative: Site based	Month	12		
1.3.10	Comply with SHEQ requirements by Safety Officer e.g. regular review and update of Health and Safety File	Month	12		
1.3.11	Site offices cost , including ablution facilities, site administration, transport, accommodation etc.	Month	12		
1.3.12	Periodic medical, fitness and induction costs	Month	12		
1.3.13	Security for site camp and work on site	Month	12		
1.3.14	Local labour management cost for:	Month	12		
1.3.14.1	Overhead cost to manage SMME's that will execute a portion of the contract (30% of labour portion)	Month	12		
1.3.14.2	Community Liaison Officer (R 10 000.00 p/month)	Month	12	R 10 000.00	R 120 000.00
1.3.14.3	Overheads, charges and profit on item 1.3.14.2 (Maximum of 10 % allowed)	%			
1.3.14.4	Community liaison and communication (R 500/month)	Month	12	R 500.00	R 6 000.00
1.3.14.5	Overheads, charges and profit on item 1.3.14.4 (Maximum of 10 % allowed)	%			
1.3.14.6	Employment of EPWP workers for the duration of the project (R 41.72 p/hour per worker)	Month	Prov Sum	R 980 000.00	R 980 000.00
1.3.14.7	Management of EPWP workers, overheads, charges and profit on item 1.3.14.6 (Maximum of 10 % allowed)	%			
1.3.14.8	Training of semi-skilled labourers	Month	12		
1.4	COMPLY WITH THE FOLLOWING SHEQ REQUIREMENTS- TIME RELATED				
1.4.1	Monthly review and update the Health and Safety Plan (H & S Plan)	Month	12		
1.4.2	Monthly review and update the Risk Assessment for activities (RA)	Month	12		
1.4.3	Monthly review and update the Environmental Management Plan (EMP)	Month	12		
1.5	BUSH CLEARING				

ITEM	DESCRIPTION	UNIT	QTY	UNIT RATE	TOTAL
1.5.1	Remove and grub large trees and tree stumps and spoil off site of girth. Contractor to identify extend of bush clearing required for this phase.	Sum	1		
1.5.2	Rehabilitation of grass after completion, repair all fences, gates and damage resulted from construction or use of land.	Sum	1		
1.5.3	Interaction with property owners regarding the use of access routes on farms and property as well as settling of disputes.	Sum	1		
1.6	ITEMS NOT COVERED ELSEWHERE				
1.6.1	Provisonal Amount allow for additional works instructed by the Engineer and Employer	Prov Sum	1		
1.6.2	Provisonal Amount allow for escalation for Year 2 and 3	Prov Sum	1		
	TOTAL CARRIED FORWARD TO SUMMARY OF BILL OF QUANTITIES				

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1	HLALANIKAHLE EXT 3						
1.1	MV POLE LENGTHS						
	Supply , transport to site and pole position, off-loading and planting of the following poles.						
1.1.1	9 m wooden pole 180-199 mm dia top	D-DT-0055	Each	2			
1.1.2	11 m wooden pole 160 - 179 mm dia top	D-DT-0051	Each	24			
1.1.3	11 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.4	11 m wooden pole 200 - 219 mm dia top	D-DT-0051	Each	4			
1.1.5	12 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.6	12 m wooden pole 200 - 219 mm dia top	D-DT-0051	Each	0			
1.1.7	13 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.8	13 m wooden pole 200 - 219 mm dia top	D-DT-0015	Each	0			
1.1.9	3,5 m cross-arm	D-DT-0063	Each	0			
1.1.10	1,3 m cross-arm		Each	0			
1.2	MV STRUCTURES						
	Supply, transport to site and pole postion, off-loading and dressing of the following MV structures. Note: Pricing shall make provision for a terminations and clamping-in on conductor.						
1.2.1	Intermediate Assembly Staggered Vertical 0°	D-DT-1710	Each	20			
1.2.2	Strain Assembly Vertical 0 deg deviation	D-DT-1713	Each	0			
1.2.3	Strain Assembly Vertical 10-30 deg deviation	D-DT-1714	Each	0			
1.2.4	Strain Assembly Vertical 30-60 deg deviation	D-DT-1715	Each	1			
1.2.5	Strain Assembly Vertical 60-90 deg deviation	D-DT-1745	Each	0			
1.2.6	Terminal Assembly	D-DT-1716	Each	2			
1.2.7	T-off assembly from intermediate vertical	D-DT-1801	Each	0			
1.3	MV ANCHORS						
	Supply and install complete MV stay rod assembly.						
1.3.1	Complete stay rod assembly.	D-DT-0341	Each	5			
1.3.2	Wooden Strut for 11 m Wooden Pole	D-DT-0351	Each	2			
1.3.3	MV Flying Stay	D-DT-0343	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.4	MV POLE EXCAVATIONS						
	Excavate holes, backfilling, compaction to initial soil conditions and dispose of burden for the following structures (Claims for hard rock or blasting must be approved by the Engineer or his Representative). Hole sizes as follows:						
1.4.1	9 m wooden pole 180-199 mm dia top						
1.4.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	2			
1.4.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.4.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.4.1.4	Submersed - excavation and backfill	D-DT-0332	Each	1			
1.4.2	11 m wooden pole 160 - 179 mm dia top						
1.4.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	17			
1.4.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	3			
1.4.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	3			
1.4.2.4	Submersed - excavation and backfill	D-DT-0332	Each	3			
1.4.3	11 m wooden pole 200 - 219 mm dia top						
1.4.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	3			
1.4.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	3			
1.4.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	3			
1.4.3.4	Submersed - excavation and backfill	D-DT-0332	Each	3			
1.4.4	13 m wooden pole 180 - 199 mm dia top						
1.4.4.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.4.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.4.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.4.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.5	MV ANCHORS						
1.4.5.1	Stay Hole Excavations						
1.4.5.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	4			
1.4.5.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.4.5.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.4.5.1.4	Submersed - excavation and backfill	D-DT-0332	Each	1			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.4.5.2	Concrete Strut for 11 m Concrete Pole						
1.4.5.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	2			
1.4.5.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.4.5.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.4.5.2.4	Submersed - excavation and backfill	D-DT-0332	Each	1			
1.4.5.3	MV Flying Stay Hole Excavations						
1.4.5.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.5.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.5	TRANSFORMERS						
	Supply, transport to site, off-loading, installation, connection, testing and commissioning of the following						
	Pole Transformers.						
1.5.1	315 kVA, 22kV / 420 Transformer as specified in PSE19 of SECTION 5.	PSE 19	Each	2			
1.5.2	Supply, delivery and installation of transformer platform complete with bolts, washers and nuts (excluding poles).	D-DT-1861	Each	2			
1.6	LOAD BREAKS						
	Supply, installation, connection, testing and commissioning of the following load breaks:						
1.6.1	Drop-out fuses 20 amp assembly with 20 amp fuses.	D-DT-1852	Set	2			
1.6.2	On-load huklink 24 kV 200 amp, 3ph. Combined isolator and strain insulator.	D-DT-1855	Set	0			
1.6.3	Tri-switch assembly, 3 ph, load break, 200 amp (Link Stick operated).	D-DT-1857	Each	0			
1.6.4	Enclosure	PSE 01	Set	2			
1.6.5	Supply, delivery and installation of LV Fuses Morsdorfers 160A.	D-DT-0309	Each	4			
1.7	LV POLE LENGTHS						
	Supply, Transport to site and pole position, off-loading and planting of the following wooden poles.						
1.7.1	9 m wooden pole 180 - 199 mm dia top	D-DT-0003	Each	97			
1.8	LV STRUCTURES						
	Supply, transport to site and pole position, off-loading and dressing of the following LV structures.						
1.8.1	Intermediate/Suspension (0 - 30 deg)	D-DT-1100	Each	87			
1.8.2	Strain assembly (0 - 60 deg)	D-DT-1121	Each	9			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.8.3	Strain assembly (60 - 90 deg)	D-DT-1122	Each	7			
1.8.4	Terminal assembly	D-DT-1120	Each	21			
1.8.5	T-off assembly from intermediate	D-DT-1140	Each	7			
1.8.6	T-off assembly from strain	D-DT-1142	Each	0			
1.8.7	Cross intermediate-intermediate assembly	D-DT-1141	Each	0			
1.8.8	Cross intermediate-strain assembly	D-DT-1143	Each	0			
1.9	LV ANCHORS						
	Supply and install complete LV stay rod assembly.						
1.9.1	Complete stay rod assembly.	D-DT-0341	Each	26			
1.9.2	Strut for 9 m LV Pole	D-DT-0351	Each	27			
1.9.3	LV Flying Stay	D-DT-0343	Each	0			
1.10	LV POLE EXCAVATIONS						
1.10.1	9 m hollow spun concrete pole 180 - 199 mm dia top						
1.10.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	68			
1.10.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	10			
1.10.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	10			
1.10.1.4	Submersed - excavation and backfill	D-DT-0332	Each	10			
1.11	LV ANCHORS						
1.11.1	LV Stay Hole Excavations						
1.11.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	19			
1.11.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	3			
1.11.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	3			
1.11.1.4	Submersed - excavation and backfill	D-DT-0332	Each	3			
1.11.2	Strut pole for 9 m						
1.11.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	19			
1.11.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	3			
1.11.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	3			
1.11.2.4	Submersed - excavation and backfill	D-DT-0332	Each	3			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.11.3	LV Flying Stay Hole Excavations						
1.11.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.11.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.11.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.11.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.12	EXTRA-OVER ITEMS FOR EXCAVATIONS						
1.12.1	Soft rock and soil - (excavation and backfill)	PSE 09	m ³	0			
1.12.2	Hard rock (Compressor) - excavation and backfill	PSE 09	m ³	0			
1.12.3	Blasting	PSE 09	m ³	0			
1.12.4	Auger drill	PSE 11	Each	0			
1.12.5	Rock drill	PSE 11	Each	0			
1.13	EARTHING						
	Conduct earthing survey, test pole footing earth and if required install additional earthing.						
1.13.1	Bonding of structures	D-DT-0310	Each	127			
1.13.2	Conduct pole footing earth resistance tests and submit test results to Engineer.	PSE 01	Each	127			
1.13.3	Three point star earthing (TPS)						
	Supply and install TPS earthing MV Transformers and at poles as per Engineers instruction.	D-DT-0640	Each	2			
1.13.4	Supply and install TPS earthing LV Transformers and at poles as per Engineers instruction.	0627 & 0637	Each	4			
1.13.5	Single earth spike						
	Supply and install 1,8 m x 16 mm copper earth rod in pole hole and connect to wire strand.	D-DT-0637	Each	2			
1.13.6	Conductive Concrete						
	Drill hole, supply and install conductive concrete including 1,8 m x 16 mm copper earth spike.	PSE 01	Each	2			
1.14	CONDUCTORS						
	Supply, deliver, stringing and tensioning of the following bare conductor and aerial bundle conductor (ABC)						
	Note: Length is for all three phases and include line regulation.						
1.14.1	Phase conductor - Single Hare	D-DT-3136	m	0			
1.14.2	Phase conductor - Single Mink	D-DT-3136	m	1500			
1.14.3	3 x 35 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3141	m	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.14.4	3 x 70 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3141	m	2500			
1.15	SERVICE CONNECTION BOXES						
	Supply, transport to site, off-loading, installation, connection, testing and commissioning of the following .						
1.15.1	1-4 way Service Distribution pole top box (4 x 30 A 1ph circuit breakers)	D-DT-3055	Each	80			
1.15.2	1-6 way Service Distribution pole top box (8 x 30 A 1ph circuit breakers)	D-DT-3055	Each	5			
1.15.3	50 A MCB, slow curve 1, 5 kA	PSE 01	Each	231			
1.15.4	Clip-in LV lightning arrester	PSE 01	Each	231			
1.15.5	Complete pole top box and house connection "sample" assembly prior to construction	PSE 01	Each	0			
1.16	JOINTS						
	Supply, deliver and installation of the following compression joints and ABC joints. (Subject to Approval)						
1.16.1	Phase conductor - Single Hare	D-DT-3073	Each	0			
1.16.2	Phase conductor - Single Mink	D-DT-3073	Each	1			
1.16.3	3 x 35 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3089	Each	0			
1.16.4	3 x 70 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3089	Each	2			
1.17	POLE IDENTIFICATION LABELS						
	Supply and install pole identification labels on entire line. Stencil pole number 2m above ground level with black paint on yellow background - stencil size 80mm.	PSE 01	Each	6			
1.18	HOUSE CONNECTIONS						
1.18.1	Supply, delivery, installation and commissioning of ready boards complete with light-fitting and lamp as specified.	PSE 01	Each	231			
1.18.2	Supply, delivery, installation and connecting of 10mm ² concentric Airdac cable with seperate neutral and earth (SNE) (No communication cores) as specified.	D-DT-3140	m	5775			
1.18.3	Supply, delivery and installation of 25mm conduit for 10mm ² concentric Airdac cable.	PSE 08	m	0			
1.18.4	Supply, delivery, installation and commissioning of complete Conlog Split Single Phase DIN-Rail mounted prepaid meter as specified in Clause 2.7 of PSe01 of Section V.						
1.18.5	Conlog wBEC44 Split Single Phase DIN-Rail mounted meter with RF communications	PSE 01	Each	231			
1.18.6	Customer Interface Unit and Customer Card	PSE 01	Each	231			
1.18.7	Supply and installation of weather proof type York wall mounted box with wooden backing plate to accommodate prepaid meter on outside of house.	PSE 01	Each	0			
1.18.8	Supply and installation of Airdac strain clamps complete for fixing at shack with pigtail hook or bracket						

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	suitable for concrete pole mounting.	PSE 01	Each	231			
1.18.9	Supply and install pigtail bolt assembly (M10 x 280 mm).	PSE 01	Each	231			
1.18.10	Supply and installation of 5 m wooden shack pole complete with excavation and with Airdac strain clamp.	PSE 01	Each	0			
1.18.11	Supply and installation of 7 m wooden shack pole complete with excavation and with Airdac strain clamp (Subject to approval).	PSE 01	Each	116			
1.18.12	Supply and installation of 9 m wooden shack pole complete with excavation and with Airdac strain clamp (Subject to approval).	PSE 01	Each	93			
1.18.13	Supply and Install Airdac compression gland suitable for zinc plate mounting	PSE 01	Each	231			
1.18.14	Testing and quality control of house connection installation and issuing of a certificate of compliance for each house connection by an accredited person as specified.	PSE 01	Each	231			
1.18.15	Supply and installation of 2,0 m x 20 mm dia protection (kicking) pipe fixed with saddles against the wall of the house.	PSE 01	Each	0			
1.18.16	200mm dia x 9 000mm galvanised kicking pipe filled with Bentonite	PSE 01	Each	0			
1.19	LOCAL SUBCONTRACTORS						
	Allow R 350,00 / house connection for labour of local subcontractors.	PSE 100	Each	231			
1.20	LV CABLE						
	Supply, transport to site, off-loading, installation, testing and commissioning of the following LV cable.						
1.20.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	m	0			
1.21	LV CABLE ENDS						
	Supply, delivery, making off and commissioning of cable ends complete with lugs, labelling, ect for the following sizes of cables (Cable ends to be suitable for cable glands):						
1.21.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	Each	0			
1.22	LV CABLE JOINT						
	Supply, delivery, making off and commissioning of cable ends complete with lugs, labelling, ect for the following sizes of cables (Cable ends to be suitable for cable glands):						
1.22.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	Each	0			
1.23	CABLE TRENCH						
	Excavation, backfilling and consolidation of cable trenches.						
1.23.1	Soft rock and soil - (excavation and backfill)	PSE 09	m	0			
1.23.2	Hard rock (Compressor) - excavation and backfill	PSE 09	m	0			
1.23.3	Very Hard rock (Blasting) - excavation and backfill	PSE 09	m	0			
1.24	BEDDING						

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Supply and installation of a 1.2 m.K/W bedding layer per running meter of soft sieved soil in trenches as well as backfilling and consolidation as specified.	PSE 09	m	0			
1.25	DANGER TAPE						
	Supply and installation of danger tape to a depth of 300 mm.	PSE 09	m	0			
1.26	CONCRETE SLAB						
	Supply and install concrete slabs for cable protection (300*1000*25) in cable trench at 300mm depth	PSE 09	Each	0			
1.27	END CAPS						
	Seal off cable ends with heat shrinkable endcaps and mark position with an earth peg.	PSE 09	Each	0			
1.28	CABLE ROUTE MARKER						
	Supply and install concrete cable route marker.	PSE 09	Each	0			
1.29	SLEEVES						
	Supply and install 110 mm dia PVC sleeves at all road crossings	PSE 09	m	0			
1.30	ROAD & SERVICE CROSSING						
1.30.1	SECONDARY ROADS AND RIVER CROSSINGS						
	Prepare structures, erecting of temporary obstructions and barricades, provision of road signs. Notify manager roads department and municipal traffic officials at least 14 days prior commencement of stringing.						
1.30.1.1	Gravel Roads	PSE 11	Each	0			
1.30.2	MISCELLANEOUS OVERHEAD CROSSINGS						
	Prepare structures, erecting of temporary obstructions and barricades and do stringing for the following type of overhead crossings:						
1.30.2.1	Telephone Line	PSE 11	Each	1			
1.30.2.2	LV Power Line	PSE 11	Each	1			
1.30.2.2	22 kV Power Line	PSE 11	Each	1			
1.31	DOCUMENTATION						
	Complete all parts of the Construction Handbook that applies to the construction of the line	PSE 01	Each	1			
1.32	TESTING AND COMMISSIONING						
	Pressure testing and commissioning of the network.	PSE 01	Each	1			
	TOTAL CARRIED FORWARD TO SUMMARY OF BILL OF QUANTITIES						

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1	HLALANIKAHLE EXT 3 (ERF 1478)						
1.1	MV POLE LENGTHS						
	Supply , transport to site and pole position, off-loading and planting of the following poles.						
1.1.1	9 m wooden pole 180-199 mm dia top	D-DT-0055	Each	1			
1.1.2	11 m wooden pole 160 - 179 mm dia top	D-DT-0051	Each	2			
1.1.3	11 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.4	11 m wooden pole 200 - 219 mm dia top	D-DT-0051	Each	0			
1.1.5	12 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.6	12 m wooden pole 200 - 219 mm dia top	D-DT-0051	Each	0			
1.1.7	13 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.8	13 m wooden pole 200 - 219 mm dia top	D-DT-0015	Each	0			
1.1.9	3,5 m cross-arm	D-DT-0063	Each	0			
1.1.10	1,3 m cross-arm		Each	0			
1.2	MV STRUCTURES						
	Supply, transport to site and pole postion, off-loading and dressing of the following MV structures. Note: Pricing shall make provision for a terminations and clamping-in on conductor.						
1.2.1	Intermediate Assembly Staggered Vertical 0°	D-DT-1710	Each	1			
1.2.2	Strain Assembly Vertical 0 deg deviation	D-DT-1713	Each	0			
1.2.3	Strain Assembly Vertical 10-30 deg deviation	D-DT-1714	Each	0			
1.2.4	Strain Assembly Vertical 30-60 deg deviation	D-DT-1715	Each	1			
1.2.5	Strain Assembly Vertical 60-90 deg deviation	D-DT-1745	Each	0			
1.2.6	Terminal Assembly	D-DT-1716	Each	2			
1.2.7	T-off assembly from intermediate vertical	D-DT-1801	Each	0			
1.3	MV ANCHORS						
	Supply and install complete MV stay rod assembly.						
1.3.1	Complete stay rod assembly.	D-DT-0341	Each	3			
1.3.2	Wooden Strut for 11 m Wooden Pole	D-DT-0351	Each	0			
1.3.3	MV Flying Stay	D-DT-0343	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.4	MV POLE EXCAVATIONS						
	Excavate holes, backfilling, compaction to initial soil conditions and dispose of burden for the following structures (Claims for hard rock or blasting must be approved by the Engineer or his Representative). Hole sizes as follows:						
1.4.1	9 m wooden pole 180-199 mm dia top						
1.4.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	1			
1.4.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.4.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.4.1.4	Submersed - excavation and backfill	D-DT-0332	Each	1			
1.4.2	11 m wooden pole 160 - 179 mm dia top						
1.4.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	2			
1.4.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.4.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.4.2.4	Submersed - excavation and backfill	D-DT-0332	Each	1			
1.4.3	11 m wooden pole 200 - 219 mm dia top						
1.4.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.4	13 m wooden pole 180 - 199 mm dia top						
1.4.4.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.4.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.4.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.4.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.5	MV ANCHORS						
1.4.5.1	Stay Hole Excavations						
1.4.5.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	3			
1.4.5.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.4.5.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.4.5.1.4	Submersed - excavation and backfill	D-DT-0332	Each	1			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.4.5.2	Concrete Strut for 11 m Concrete Pole						
1.4.5.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.5.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.2.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3	MV Flying Stay Hole Excavations						
1.4.5.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.5.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.5	TRANSFORMERS						
	Supply, transport to site, off-loading, installation, connection, testing and commissioning of the following						
	Pole Transformers.						
1.5.1	315 kVA, 22kV / 420 Transformer as specified in PSE19 of SECTION 5.	PSE 19	Each	1			
1.5.2	Supply, delivery and installation of transformer platform complete with bolts, washers and nuts (excluding poles).	D-DT-1861	Each	1			
1.6	LOAD BREAKS						
	Supply, installation, connection, testing and commissioning of the following load breaks:						
1.6.1	Drop-out fuses 20 amp assembly with 20 amp fuses.	D-DT-1852	Set	1			
1.6.2	On-load huklink 24 kV 200 amp, 3ph. Combined isolator and strain insulator.	D-DT-1855	Set	0			
1.6.3	Tri-switch assembly, 3 ph, load break, 200 amp (Link Stick operated).	D-DT-1857	Each	0			
1.6.4	Supply, delivery and installation of 1x500 A & 5x200 A, 3-pole MCB with shunt trip including Trfr Protective Enclosure	PSE 01	Set	1			
1.6.5	Supply, delivery and installation of LV Fuses Morsdorfers 160A.	D-DT-0309	Each	2			
1.7	LV POLE LENGTHS						
	Supply, Transport to site and pole position, off-loading and planting of the following wooden poles.						
1.7.1	9 m wooden pole 180 - 199 mm dia top	D-DT-0003	Each	23			
1.8	LV STRUCTURES						
	Supply, transport to site and pole postion, off-loading and dressing of the following LV structures.						
1.8.1	Intermediate/Suspension (0 - 30 deg)	D-DT-1100	Each	17			
1.8.2	Strain assembly (0 - 60 deg)	D-DT-1121	Each	1			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.8.3	Strain assembly (60 - 90 deg)	D-DT-1122	Each	2			
1.8.4	Terminal assembly	D-DT-1120	Each	6			
1.8.5	T-off assembly from intermediate	D-DT-1140	Each	2			
1.8.6	T-off assembly from strain	D-DT-1142	Each	0			
1.8.7	Cross intermediate-intermediate assembly	D-DT-1141	Each	0			
1.8.8	Cross intermediate-strain assembly	D-DT-1143	Each	0			
1.9	LV ANCHORS						
	Supply and install complete LV stay rod assembly.						
1.9.1	Complete stay rod assembly.	D-DT-0341	Each	6			
1.9.2	Strut for 9 m LV Pole	D-DT-0351	Each	7			
1.9.3	LV Flying Stay	D-DT-0343	Each	0			
1.10	LV POLE EXCAVATIONS						
1.10.1	9 m hollow spun concrete pole 180 - 199 mm dia top						
1.10.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	17			
1.10.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	3			
1.10.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	3			
1.10.1.4	Submersed - excavation and backfill	D-DT-0332	Each	3			
1.11	LV ANCHORS						
1.11.1	LV Stay Hole Excavations						
1.11.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	5			
1.11.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.11.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			
1.11.1.4	Submersed - excavation and backfill	D-DT-0332	Each	1			
1.11.2	Strut pole for 9 m						
1.11.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	5			
1.11.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	1			
1.11.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	1			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.11.2.4	Submersed - excavation and backfill	D-DT-0332	Each	1			
1.11.3	LV Flying Stay Hole Excavations						
1.11.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.11.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.11.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.11.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.12	EXTRA-OVER ITEMS FOR EXCAVATIONS						
1.12.1	Soft rock and soil - (excavation and backfill)	PSE 09	m ³	0			
1.12.2	Hard rock (Compressor) - excavation and backfill	PSE 09	m ³	0			
1.12.3	Blasting	PSE 09	m ³	0			
1.12.4	Auger drill	PSE 11	Each	0			
1.13.5	Rock drill	PSE 11	Each	0			
1.13	EARTHING						
	Conduct earthing survey, test pole footing earth and if required install additional earthing.						
1.13.1	Bonding of structures	D-DT-0310	Each	26			
1.13.2	Conduct pole footing earth resistance tests and submit test results to Engineer.	PSE 01	Each	26			
1.13.4	Three point star earthing (TPS)						
	Supply and install TPS earthing MV Transformers and at poles as per Engineers instruction.	D-DT-0640	Each	1			
1.13.5	Supply and install TPS earthing LV Transformers and at poles as per Engineers instruction.	0627 & 0637	Each	2			
1.13.6	Single earth spike						
	Supply and install 1,8 m x 16 mm copper earth rod in pole hole and connect to wire strand.	D-DT-0637	Each	1			
1.13.7	Conductive Concrete						
	Drill hole, supply and install conductive concrete including 1,8 m x 16 mm copper earth spike.	PSE 01	Each	1			
1.14	CONDUCTORS						
	Supply, deliver, stringing and tensioning of the following bare conductor and aerial bundle conductor (ABC)						
	Note: Length is for all three phases and include line regulation.						
1.14.1	Phase conductor - Single Hare	D-DT-3136	m	0			
1.14.2	Phase conductor - Single Mink	D-DT-3136	m	206			
1.14.3	3 x 35 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3141	m	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.14.4	3 x 70 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3141	m	563			
1.15	SERVICE CONNECTION BOXES						
	Supply, transport to site, off-loading, installation, connection, testing and commissioning of the following .						
1.15.1	1-4 way Service Distribution pole top box (4 x 30 A 1ph circuit breakers)	D-DT-3055	Each	14			
1.15.2	1-8 way Service Distribution pole top box (8 x 30 A 1ph circuit breakers)	D-DT-3055	Each	0			
1.15.3	50 A MCB, slow curve 1, 5 kA	PSE 01	Each	43			
1.15.4	Clip-in LV lightning arrester	PSE 01	Each	43			
1.15.5	Complete pole top box and house connection "sample" assembly prior to construction	PSE 01	Each	0			
1.16	JOINTS						
	Supply, deliver and installation of the following compression joints and ABC joints. (Subject to Approval)						
1.16.1	Phase conductor - Single Hare	D-DT-3073	Each	0			
1.16.2	Phase conductor - Single Mink	D-DT-3073	Each	1			
1.16.3	3 x 35 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3089	Each	0			
1.16.4	3 x 70 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3089	Each	1			
1.17	POLE IDENTIFICATION LABELS						
	Supply and install pole identification labels on entire line. Stencil pole number 2m above ground level with black paint on yellow background - stencil size 80mm.	PSE 01	Each	6			
1.18	HOUSE CONNECTIONS						
1.18.1	Supply, delivery, installation and commissioning of ready boards complete with light-fitting and lamp as specified.	PSE 01	Each	43			
1.18.2	Supply, delivery, installation and connecting of 10mm ² concentric Airdac cable with seperate neutral and earth (SNE) (No communication cores) as specified.	D-DT-3140	m	1075			
1.18.3	Supply, delivery and installation of 25mm conduit for 10mm ² concentric Airdac cable.	PSE 08	m	0			
1.18.4	Supply, delivery, installation and commissioning of complete Conlog Split Single Phase DIN-Rail mounted prepaid meter as specified in Clause 2.7 of PSe01 of Section V.						
1.18.5	Conlog wBEC44 Split Single Phase DIN-Rail mounted meter with RF communications	PSE 01	Each	43			
1.18.6	Customer Interface Unit and Customer Card	PSE 01	Each	43			
1.18.7	Supply and installation of weather proof type York wall mounted box with wooden backing plate to accommodate prepaid meter on outside of house.	PSE 01	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.18.8	Supply and installation of Airdac strain clamps complete for fixing at shack with pigtail hook or bracket suitable for concrete pole mounting.	PSE 01	Each	43			
1.18.9	Supply and install pigtail bolt assembly (M10 x 280 mm).	PSE 01	Each	43			
1.18.10	Supply and installation of 5 m wooden shack pole complete with excavation and with Airdac strain clamp.	PSE 01	Each				
1.18.11	Supply and installation of 7 m wooden shack pole complete with excavation and with Airdac strain clamp (Subject to approval).	PSE 01	Each	22			
1.18.12	Supply and installation of 9 m wooden shack pole complete with excavation and with Airdac strain clamp (Subject to approval).	PSE 01	Each	0			
1.18.13	Supply and Install Airdac compression gland suitable for zinc plate mounting	PSE 01	Each	43			
1.18.14	Testing and quality control of house connection installation and issuing of a certificate of compliance for each house connection by an accredited person as specified.	PSE 01	Each	43			
1.18.15	Supply and installation of 2,0 m x 20 mm dia protection (kicking) pipe fixed with saddles against the wall of the house.	PSE 01	Each	0			
1.18.16	200mm dia x 9 000mm galvanised kicking pipe filled with Bentonite	PSE 01	Each	0			
1.19	LOCAL SUBCONTRACTORS						
	Allow R 350,00 / house connection for labour of local subcontractors.	PSE 100	Each	43			
1.20	LV CABLE						
	Supply, transport to site, off-loading, installation, testing and commissioning of the following LV cable.						
1.20.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	m	0			
1.21	LV CABLE ENDS						
	Supply, delivery, making off and commissioning of cable ends complete with lugs, labelling, ect for the following sizes of cables (Cable ends to be suitable for cable glands):						
1.21.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	Each	0			
1.22	LV CABLE JOINT						
	Supply, delivery, making off and commissioning of cable ends complete with lugs, labelling, ect for the following sizes of cables (Cable ends to be suitable for cable glands):						
1.22.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	Each	0			
1.23	CABLE TRENCH						
	Excavation, backfilling and consolidation of cable trenches.						
1.23.1	Soft rock and soil - (excavation and backfill)	PSE 09	m	0			
1.23.2	Hard rock (Compressor) - excavation and backfill	PSE 09	m	0			
1.23.3	Very Hard rock (Blasting) - excavation and backfill	PSE 09	m	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.24	BEDDING						
	Supply and installation of a 1.2 m.K/W bedding layer per running meter of soft sieved soil in trenches as well as backfilling and consolidation as specified.	PSE 09	m	0			
1.25	DANGER TAPE						
	Supply and installation of danger tape to a depth of 300 mm.	PSE 09	m	0			
1.26	CONCRETE SLAB						
	Supply and install concrete slabs for cable protection (300*1000*25) in cable trench at 300mm depth	PSE 09	Each	0			
1.26	END CAPS						
	Seal off cable ends with heat shrinkable endcaps and mark position with an earth peg.	PSE 09	Each	0			
1.27	CABLE ROUTE MARKER						
	Supply and install concrete cable route marker.	PSE 09	Each	0			
1.28	SLEEVES						
	Supply and install 110 mm dia PVC sleeves at all road crossings	PSE 09	m	0			
1.29	ROAD & SERVICE CROSSING						
1.29.1	SECONDARY ROADS AND RIVER CROSSINGS						
	Prepare structures, erecting of temporary obstructions and barricades, provision of road signs. Notify manager roads department and municipal traffic officials at least 14 days prior commencement of stringing.						
1.29.1.1	Gravel Roads	PSE 11	Each	0			
1.29.2	MISCELLANEOUS OVERHEAD CROSSINGS						
	Prepare structures, erecting of temporary obstructions and barricades and do stringing for the following type of overhead crossings:						
1.29.2.1	Telephone Line	PSE 11	Each	1			
1.29.2.2	LV Power Line	PSE 11	Each	1			
1.29.2.2	22 kV Power Line	PSE 11	Each	1			
1.30	DOCUMENTATION						
	Complete all parts of the Construction Handbook that applies to the construction of the line	PSE 01	Each	1			
1.31	TESTING AND COMMISSIONING						
	Pressure testing and commissioning of the network.	PSE 01	Each	1			
	TOTAL CARRIED FORWARD TO SUMMARY OF BILL OF QUANTITIES						

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1	HLALANIKAHLE EXT 3 (ERF 1976 & 1975)						
1.1	MV POLE LENGTHS						
	Supply , transport to site and pole position, off-loading and planting of the following poles.						
1.1.1	9 m wooden pole 180-199 mm dia top	D-DT-0055	Each	0			
1.1.2	11 m wooden pole 160 - 179 mm dia top	D-DT-0051	Each	0			
1.1.3	11 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.4	11 m wooden pole 200 - 219 mm dia top	D-DT-0051	Each	0			
1.1.5	12 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.6	12 m wooden pole 200 - 219 mm dia top	D-DT-0051	Each	0			
1.1.7	13 m wooden pole 180 - 199 mm dia top	D-DT-0051	Each	0			
1.1.8	13 m wooden pole 200 - 219 mm dia top	D-DT-0015	Each	0			
1.1.9	3,5 m cross-arm	D-DT-0063	Each	0			
1.1.10	1,3 m cross-arm		Each	0			
1.2	MV STRUCTURES						
	Supply, transport to site and pole postion, off-loading and dressing of the following MV structures. Note: Pricing shall make provision for a terminations and clamping-in on conductor.						
1.2.1	Intermediate Assembly Staggered Vertical 0°	D-DT-1710	Each	0			
1.2.2	Strain Assembly Vertical 0 deg deviation	D-DT-1713	Each	0			
1.2.3	Strain Assembly Vertical 10-30 deg deviation	D-DT-1714	Each	0			
1.2.4	Strain Assembly Vertical 30-60 deg deviation	D-DT-1715	Each	0			
1.2.5	Strain Assembly Vertical 60-90 deg deviation	D-DT-1745	Each	0			
1.2.6	Terminal Assembly	D-DT-1716	Each	0			
1.2.7	T-off assembly from intermediate vertical	D-DT-1801	Each	0			
1.3	MV ANCHORS						
	Supply and install complete MV stay rod assembly.						
1.3.1	Complete stay rod assembly.	D-DT-0341	Each	0			
1.3.2	Wooden Strut for 11 m Wooden Pole	D-DT-0351	Each	0			
1.3.3	MV Flying Stay	D-DT-0343	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.4	MV POLE EXCAVATIONS						
	Excavate holes, backfilling, compaction to initial soil conditions and dispose of burden for the following structures (Claims for hard rock or blasting must be approved by the Engineer or his Representative). Hole sizes as follows:						
1.4.1	9 m wooden pole 180-199 mm dia top						
1.4.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.1.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.2	11 m wooden pole 160 - 179 mm dia top						
1.4.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.2.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.3	11 m wooden pole 200 - 219 mm dia top						
1.4.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.4	13 m wooden pole 180 - 199 mm dia top						
1.4.4.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.4.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.4.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.4.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.5	MV ANCHORS						
1.4.5.1	Stay Hole Excavations						
1.4.5.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.5.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.1.4	Submersed - excavation and backfill	D-DT-0332	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.4.5.2	Concrete Strut for 11 m Concrete Pole						
1.4.5.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.5.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.2.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3	MV Flying Stay Hole Excavations						
1.4.5.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.4.5.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.4.5.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.5	TRANSFORMERS						
	Supply, transport to site, off-loading, installation, connection, testing and commissioning of the following						
	Pole Transformers.						
1.5.1	315 kVA, 22kV / 420 Transformer as specified in PSE19 of SECTION 5.	PSE 19	Each	0			
1.5.2	Supply, delivery and installation of transformer platform complete with bolts, washers and nuts (excluding poles).	D-DT-1861	Each	0			
1.6	LOAD BREAKS						
	Supply, installation, connection, testing and commissioning of the following load breaks:						
1.6.1	Drop-out fuses 20 amp assembly with 20 amp fuses.	D-DT-1852	Set	0			
1.6.2	On-load huklink 24 kV 200 amp, 3ph. Combined isolator and strain insulator.	D-DT-1855	Set	0			
1.6.3	Tri-switch assembly, 3 ph, load break, 200 amp (Link Stick operated).	D-DT-1857	Each	0			
1.6.4	Enclosure	PSE 01	Set	0			
1.6.5	Supply, delivery and installation of LV Fuses Morsdorfers 160A.	D-DT-0309	Each	0			
1.7	LV POLE LENGTHS						
	Supply, Transport to site and pole position, off-loading and planting of the following wooden poles.						
1.7.1	9 m wooden pole 180 - 199 mm dia top	D-DT-0003	Each	0			
1.8	LV STRUCTURES						
	Supply, transport to site and pole position, off-loading and dressing of the following LV structures.						
1.8.1	Intermediate/Suspension (0 - 30 deg)	D-DT-1100	Each	0			
1.8.2	Strain assembly (0 - 60 deg)	D-DT-1121	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.8.3	Strain assembly (60 - 90 deg)	D-DT-1122	Each	0			
1.8.4	Terminal assembly	D-DT-1120	Each	0			
1.8.5	T-off assembly from intermediate	D-DT-1140	Each	0			
1.8.6	T-off assembly from strain	D-DT-1142	Each	0			
1.8.7	Cross intermediate-intermediate assembly	D-DT-1141	Each	0			
1.8.8	Cross intermediate-strain assembly	D-DT-1143	Each	0			
1.9	LV ANCHORS						
	Supply and install complete LV stay rod assembly.						
1.9.1	Complete stay rod assembly.	D-DT-0341	Each	0			
1.9.2	Strut for 9 m LV Pole	D-DT-0351	Each	0			
1.9.3	LV Flying Stay	D-DT-0343	Each	0			
1.10	LV POLE EXCAVATIONS						
1.10.1	9 m hollow spun concrete pole 180 - 199 mm dia top						
1.10.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.10.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.10.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.10.1.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.11	LV ANCHORS						
1.11.1	LV Stay Hole Excavations						
1.11.1.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.11.1.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.11.1.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.11.1.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.11.2	Strut pole for 9 m						
1.11.2.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.11.2.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.11.2.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.11.2.4	Submersed - excavation and backfill	D-DT-0332	Each	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.11.3	LV Flying Stay Hole Excavations						
1.11.3.1	Soft rock and soil - (excavation and backfill)	D-DT-0332	Each	0			
1.11.3.2	Hard rock (Compressor) - excavation and backfill	D-DT-0332	Each	0			
1.11.3.3	Very Hard rock (Blasting) - excavation and backfill	D-DT-0332	Each	0			
1.11.3.4	Submersed - excavation and backfill	D-DT-0332	Each	0			
1.12	EXTRA-OVER ITEMS FOR EXCAVATIONS						
1.12.1	Soft rock and soil - (excavation and backfill)	PSE 09	m ³	0			
1.12.2	Hard rock (Compressor) - excavation and backfill	PSE 09	m ³	0			
1.12.3	Blasting	PSE 09	m ³	0			
1.12.4	Auger drill	PSE 11	Each	0			
1.13.5	Rock drill	PSE 11	Each	0			
1.13	EARTHING						
	Conduct earthing survey, test pole footing earth and if required install additional earthing.						
1.13.1	Bonding of structures	D-DT-0310	Each	0			
1.13.2	Conduct pole footing earth resistance tests and submit test results to Engineer.	PSE 01	Each	0			
1.13.3	Three point star earthing (TPS)						
	Supply and install TPS earthing MV Transformers and at poles as per Engineers instruction.	D-DT-0640	Each	0			
1.13.4	Supply and install TPS earthing LV Transformers and at poles as per Engineers instruction.	0627 & 0637	Each	0			
1.13.5	Single earth spike						
	Supply and install 1,8 m x 16 mm copper earth rod in pole hole and connect to wire strand.	D-DT-0637	Each	0			
1.13.5	Conductive Concrete						
	Drill hole, supply and install conductive concrete including 1,8 m x 16 mm copper earth spike.	PSE 01	Each	0			
1.14	CONDUCTORS						
	Supply, deliver, stringing and tensioning of the following bare conductor and aerial bundle conductor (ABC)						
	Note: Length is for all three phases and include line regulation.						
1.14.1	Phase conductor - Single Hare	D-DT-3136	m	0			
1.14.2	Phase conductor - Single Mink	D-DT-3136	m	0			
1.14.3	3 x 35 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3141	m	0			

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
1.14.4	3 x 70 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3141	m	0			
1.15	SERVICE CONNECTION BOXES						
	Supply, transport to site, off-loading, installation, connection, testing and commissioning of the following .						
1.15.1	1-4 way Service Distribution pole top box (4 x 30 A 1ph circuit breakers)	D-DT-3055	Each	34			
1.15.2	1-8 way Service Distribution pole top box (8 x 30 A 1ph circuit breakers)	D-DT-3055	Each	0			
1.15.3	50 A MCB, slow curve 1, 5 kA	PSE 01	Each	67			
1.15.4	Clip-in LV lightning arrester	PSE 01	Each	67			
1.15.5	Complete pole top box and house connection "sample" assembly prior to construction	PSE 01	Each	0			
1.16	JOINTS						
	Supply, deliver and installation of the following compression joints and ABC joints. (Subject to Approval)						
1.16.1	Phase conductor - Single Hare	D-DT-3073	Each	0			
1.16.2	Phase conductor - Single Mink	D-DT-3073	Each	0			
1.16.3	3 x 35 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3089	Each	0			
1.16.4	3 x 70 mm sq aerial bundle conductor + bare neutral conductor	D-DT-3089	Each	0			
1.17	POLE IDENTIFICATION LABELS						
	Supply and install pole identification labels on entire line. Stencil pole number 2m above ground level with black paint on yellow background - stencil size 80mm.	PSE 01	Each	0			
1.18	HOUSE CONNECTIONS						
1.18.1	Supply, delivery, installation and commissioning of ready boards complete with light-fitting and lamp as specified.	PSE 01	Each	67			
1.18.2	Supply, delivery, installation and connecting of 10mm ² concentric Airdac cable with seperate neutral and earth (SNE) (No communication cores) as specified.	D-DT-3140	m	1675			
1.18.3	Supply, delivery and installation of 25mm conduit for 10mm ² concentric Airdac cable.	PSE 08	m	0			
1.18.4	Supply, delivery, installation and commissioning of complete Conlog Split Single Phase DIN-Rail mounted prepaid meter as specified in Clause 2.7 of PSe01 of Section V.						
1.18.5	Conlog wBEC44 Split Single Phase DIN-Rail mounted meter with RF communications	PSE 01	Each	67			
1.18.6	Customer Interface Unit and Customer Card	PSE 01	Each	67			
1.18.7	Supply and installation of weather proof type York wall mounted box with wooden backing plate to accommodate prepaid meter on outside of house.	PSE 01	Each	0			
1.18.8	Supply and installation of Airdac strain clamps complete for fixing at shack with pigtail hook or bracket						

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	suitable for concrete pole mounting.	PSE 01	Each	67			
1.18.9	Supply and install pigtail bolt assembly (M10 x 280 mm).	PSE 01	Each	67			
1.18.10	Supply and installation of 5 m wooden shack pole complete with excavation and with Airdac strain clamp.	PSE 01	Each				
1.18.11	Supply and installation of 7 m wooden shack pole complete with excavation and with Airdac strain clamp (Subject to approval).	PSE 01	Each	0			
1.18.12	Supply and installation of 9 m wooden shack pole complete with excavation and with Airdac strain clamp (Subject to approval).	PSE 01	Each	0			
1.18.13	Supply and Install Airdac compression gland suitable for zinc plate mounting	PSE 01	Each	67			
1.18.14	Testing and quality control of house connection installation and issuing of a certificate of compliance for each house connection by an accredited person as specified.	PSE 01	Each	67			
1.18.15	Supply and installation of 2,0 m x 20 mm dia protection (kicking) pipe fixed with saddles against the wall of the house.	PSE 01	Each	0			
1.18.16	200mm dia x 9 000mm galvanised kicking pipe filled with Bentonite	PSE 01	Each	0			
1.19	LOCAL SUBCONTRACTORS						
	Allow R 350,00 / house connection for labour of local subcontractors.	PSE 100	Each	67			
1.20	LV CABLE						
	Supply, transport to site, off-loading, installation, testing and commissioning of the following LV cable.						
1.20.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	m	0			
1.21	LV CABLE ENDS						
	Supply, delivery, making off and commissioning of cable ends complete with lugs, labelling, ect for the following sizes of cables (Cable ends to be suitable for cable glands):						
1.21.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	Each	0			
1.22	LV CABLE JOINT						
	Supply, delivery, making off and commissioning of cable ends complete with lugs, labelling, ect for the following sizes of cables (Cable ends to be suitable for cable glands):						
1.22.1	10 mm², Copper, 2 core, PVC, SWA + ECC	PSE 08	Each	0			
1.23	CABLE TRENCH						
	Excavation, backfilling and consolidation of cable trenches.						
1.23.1	Soft rock and soil - (excavation and backfill)	PSE 09	m	0			
1.23.2	Hard rock (Compressor) - excavation and backfill	PSE 09	m	0			
1.23.3	Very Hard rock (Blasting) - excavation and backfill	PSE 09	m	0			
1.24	BEDDING						

ITEM	DESCRIPTION	REF	UNIT	QTY	UNIT LABOUR RATE	UNIT MATERIAL RATE	TOTAL
	Supply and installation of a 1.2 m.K/W bedding layer per running meter of soft sieved soil in trenches as well as backfilling and consolidation as specified.	PSE 09	m	0			
1.25	DANGER TAPE						
	Supply and installation of danger tape to a depth of 300 mm.	PSE 09	m	0			
1.26	CONCRETE SLAB						
	Supply and install concrete slabs for cable protection (300*1000*25) in cable trench at 300mm depth	PSE 09	Each	0			
1.27	END CAPS						
	Seal off cable ends with heat shrinkable endcaps and mark position with an earth peg.	PSE 09	Each	0			
1.28	CABLE ROUTE MARKER						
	Supply and install concrete cable route marker.	PSE 09	Each	0			
1.29	SLEEVES						
	Supply and install 110 mm dia PVC sleeves at all road crossings	PSE 09	m	0			
1.30	ROAD & SERVICE CROSSING						
1.30.1	SECONDARY ROADS AND RIVER CROSSINGS						
	Prepare structures, erecting of temporary obstructions and barricades, provision of road signs. Notify manager roads department and municipal traffic officials at least 14 days prior commencement of stringing.						
1.30.1.1	Gravel Roads	PSE 11	Each	0			
1.31.2	MISCELLANEOUS OVERHEAD CROSSINGS						
	Prepare structures, erecting of temporary obstructions and barricades and do stringing for the following type of overhead crossings:						
1.31.2.1	Telephone Line	PSE 11	Each	1			
1.31.2.2	LV Power Line	PSE 11	Each	1			
1.31.2.2	22 kV Power Line	PSE 11	Each	1			
1.32	DOCUMENTATION						
	Complete all parts of the Construction Handbook that applies to the construction of the line	PSE 01	Each	1			
1.33	TESTING AND COMMISSIONING						
	Pressure testing and commissioning of the network.	PSE 01	Each	1			
	TOTAL CARRIED FORWARD TO SUMMARY OF BILL OF QUANTITIES						

BILL OF QUANTITIES:
THE CONSTRUCTION OF ELECTRICAL RETICULATION NETWORK IN HLALANIKAHLE
SUMMARY

ITEM NO	DESCRIPTION OF THE ITEM	LIST	PRICE AMOUNT
1	PRELIMINARIES AND GENERAL	A	
2	HLALANIKAHLE EXT 3	B	
3	HLALANIKAHLE EXT 3 (ERF 1478)	C	
4	HLALANIKAHLE EXT 3 (ERF 1976 & 1975)	D	
15	SUBTOTAL B		
16	Plus: 15 % VAT		
17	TOTAL TENDER PRICES		



EMALAHLENI LOCAL MUNICIPALITY

P O Box 3
EMALAHLENI
1035

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

C3 – SCOPE OF WORKS / SPECIFICATIONS

C4 – SITE INFORMATION

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C3 – SCOPE OF WORKS

C3 – SCOPE OF WORKS: GENERAL

C3. SCOPE OF WORKS

This scope of work institutes information that specifies and describes the goods, services, or engineering and construction works which are to be provided and any other requirements and constraints relating to the way the contract work is to be performed.

The Scope of Works includes four distinct sub-sections namely:

- C3.1 – Project Specifications
- C3.2 – General Specifications
- C3.2 – Technical Schedules

The Contractor must include in their tender price, for the supply, delivery of material on site, installation and commissioning of the works as specified in this document. The onus is on the Contractor to ensure that he received a complete document as indicated in the Index.

Any discrepancies shall be clarified by the Tenderer prior to the enquiry closing date.

GENERAL

This specification deals with the technical installation aspects relating to this project. Any discrepancy between the Particular Specification, Bill of Quantities and Drawings must be reported to the Engineer who will clarify such contradiction before closing of tender.

If any discrepancies exist between parts of this document, the following order of preference will take place:

- a) Drawings
- b) Bill of Quantities
- c) Project Specifications
- d) General specifications

Regarding the conditions of the contract, the order of priority is as follows:

- a) Special Conditions of Contract and Appendix to Tender
- b) General Conditions of Contract
- c) Tender requirements
- d) Common Law

DESCRIPTION OF THE WORKS

The projects entail the construction of Electrification of 341 units in Hlalanikahle.

The Department of Mineral Resources and Energy (DMRE) will fund the project and will after completion be handed over to Emalahleni Local Municipality for commercial operation and maintenance.

All the material shall be supplied by the tenderer which includes the manufacturing, according to Eskom Specification, transporting to site, offload, installation, and commissioning will all be undertaken by the successful tenderer.

Prior to energizing, commissioning certificates must be submitted by the OEM for the 22 kV pole mounted transformers.

Preparation of all detail's designs, manufacturing drawings and documentations for approval specified throughout the enquiry document shall initiate once the successful Contractor has received a Letter of Acceptance.

C3 – SCOPE OF WORKS: GENERAL

The scope of works is outlined below.

Table 1: High level primary plant scope of work

1.	Survey and peg all MV structure positions. Only survey and peg the terminal and strain LV structures. Survey and peg the even boundaries.
2.	Bush Clearing.
3.	Excavation of MV & LV pole holes.
4.	Excavation of MV & LV stay holes.
5.	Excavation of MV & LV cable trenches.
6.	Dressing of poles.
7.	Planting of poles.
8.	Planting of stays and struts (including temporary construction stays).
9.	Stringing of the MV & LV conductor.
10.	Installation of MV & LV cables.
11.	Installation of pole mounted transformers.
12.	Installation of pole top boxes.
13.	Installation of Readyboards and issue CoC.
14.	Testing of MV & LV Network.
15.	Commissioning of MV & LV Network.

CONSTRAINTS WITH EXECUTION OF THE WORKS

- a) Any variation or modification with a cost implication must be approved by the Project Manager before work can commence. No late claim will be entertained.
- b) The handing over document must be signed and handover must take place 7 days prior to the official energising of the project.
- c) **No work shall be permitted to proceed without the work being surveyed & pegged by the Contractor (subject to the Engineer's approval).**
- d) The Contractor must adhere to Safety Requirements. Further safety requirements are as follows:
 - Only harnesses and no safety belts must be used in alleviated positions.
 - No labourers will be allowed to stay on site. A night watch shall be appointed to guard the site at night.
 - No short pants will be allowed on site.
 - Safety clothes suitable for the specific task must be always worn.
 - Toilet facilities are available on site; no temporary toilets will be allowed.
 - Day visitors will be able to enter with a visitor's card.
 - Hard hats and safety boots are compulsory on the construction site.
 - All operators must be trained and competent.
 - All equipment must be in a good working order.
 - The Contractor must have a first-aid kit on site and all injuries must be reported.
 - The Contractor must keep complete record of all man hours.
- e) The tenderer shall provide three complete sets of all special tools for the equipment supplied. The tenderer shall further provide a list of spare parts which it is recommended and should be kept by the Employer. Spares, which the employer decides to order, shall be delivered simultaneously with the rest of the equipment and shall be separately packed and appropriately marked.

The spares must be handed over to the Client before the issuing of the Taking Over Certificate and may not be used by the Contractor for maintenance or for replacement of components which must be replaced due to defects during the Defects Liability Period or for the replacement of any item which is still under guarantee.

C3.1 – PROJECT SPECIFICATIONS

C3.1. PROJECT SPECIFICATIONS

This specification deals with the technical installation aspects relating to this project.

Any discrepancy between the Particular Specification, Bill of Quantities and Drawings must be reported to the Engineer for clarification prior to the closing of the tender.

If any discrepancies exist between parts of this document, the following order of preference will take place:

- a) The Contract Agreement (if any)
- b) The Letter of Acceptance
- c) The Letter of Tender
- d) The Particular Conditions
- e) These General Conditions
- f) The Specifications
- g) The Drawings, and
- h) The Schedules and any other documents forming part of the Contract

C3.1.1. DEFINITIONS

For the purposes of this document, terms used herein or in accompanying documents shall have the following meaning:

“Agreement” shall mean the agreement entered between the Employer and the Contractor for the execution of the accepted Tender Price or accepted quotation. Under this contract this means the FIDIC Condition of Contract and other contract documents.

“Bills of Quantities” or **“Schedule of Quantities”** or **“Pricing Schedules”** shall mean the document attached to a Tender Document or Quotation in which the quantities of work, labour, materials, and articles required for the execution of the contract will be entered, together with the rates or prices for such items.

“Calendar Days” means twenty-four (24) hour days commencing at midnight (00:00) which include working and non-working days.

“Certificate of Final Completion” means a certificate issued by the Engineer to the Contractor stating the date on which final completion of the works was achieved.

“Certificate of Practical Completion” means a certificate issued by the Engineer to the Contractor stating the date on which practical completion of the works was achieved.

“Certificate of Works Completion” means a certificate issued by the Engineer to the Contractor stating the date on which works completion of the works was achieved

“Contractor” shall mean the Employer has accepted the person or persons, partnership, firm or company, whose tender for the work referred to in the Contract or who has or have signed the contract and shall include his or their heirs, executors, administrators, judicial managers, trustees, successors in title and duly appointed representatives.

“Contract” or **“Contract Documents”** shall mean and include the Conditions of Tender, General Conditions of Contract, Special Conditions of Contract, Project Specifications, Schedules of Quantities or Pricing Schedules or Bills of Quantities, Schedule of Prices for Variations, Drawings, Form of Tender, Letter of Acceptance and the Agreement to follow thereon and shall include such printed matter or explanatory memorandum submitted by a Tenderer with his tender as may be acceptable to the Employer;

“Contract Price” or **“Contract Sum”** shall mean the amount entered in the Form of Tender for the whole of the Works done or materials supplied for the Works, subject to additions or deductions as may be made in terms of the Contract.

“Construction Equipment” shall mean all the materials, machinery, implements, tackle, vehicles, barrows, tools, etc. provided by the Contractor, for the due performance of the Contract, but not essentially forming part of the Contract.

“Drawings” shall mean the drawings, sketches, diagrams, maps, plans, sections and other delineations which accompany or are referred to in the Contract Documents, and which have been signed by the Engineer and such further drawings as may be issued or approved by the Engineer relating to the works, whether such further drawings indicate variations of the Works, whether by way of addition, alteration or omission, or merely elaborate the signed Drawings in greater detail.

“Employer” or the **“Client”** shall mean the Owner of the completed Works or the official body who acts as the representative of the Owner and shall include their duly appointed representatives.

“Engineer” shall mean the Engineer duly appointed by the Employer to act on his behalf for the purpose of a Contract. Under this contract the Engineer might act as the Principal Agent

“In writing” shall mean type written script or printed communication matter transmitted via land mail or via e-mail, or delivered by hand, to the Engineer.

“OEM” shall mean the Original Equipment Manufacturer for any product or equipment required as part of this project.

“Order in Writing” shall mean any printed, typewritten, or written document or letter signed by the Engineer and addressed to the Contractor for the purpose of his guidance and directions.

“Plant”, “Work” or “Works” shall mean all equipment, plant, materials, articles, matters and items comprised by, described in, or referred to in the Contract Documents and which are to be manufactured and/or delivered, constructed, erected, and completed. These shall include all those details which are not particularly mentioned in the aforesaid Documents, nor shown upon the Drawings, but which are requisite for the perfect completion of each one of the several parts, and all additional Works that may be ordered to be executed according to the true intent and meaning of the Contract plus the maintenance for the prescribed period.

“Schedule of Prices for Variations” shall mean the schedules attached to a Contract Document or Quotation in which the amounts to be added to or deducted from the Contract Amounts are entered according to whether the items mentioned in the said schedule are extra to or omitted from the Contract as may be provided for in the General Conditions of Contract.

“Site” shall mean the land and/or place to which Works is to be delivered or where work is to be executed or carried out under a Contract and any other land and/or place acquired or used by the Contractor in connection therewith, and includes any place wherever anything is manufactured, excavated or stored for the purpose of carrying out a Contract, together with so much of the area surroundings the said place or places as the Contractor shall with the consent of the Engineer actually use in connection with the Works otherwise than merely for the purpose of access to the said place or places.

“Specification” shall mean the section in the Contract document in which the detail method and standard of executing the Work and the nature of the materials to be used or supplied are described.

“Standard Practice” shall mean the methods and means of working normally as employed by the Employer.

“Sub-Contractor” shall mean the person or persons, partnership, firm or company named in the Contract for any part of the Work or to whom any part of the Contract has been sublet with the consent in writing of the Engineer and the legal representatives, successors and assigns of such person or persons, partnership, firm or company and all specialists, merchants, tradesmen or others executing any Work or supplying any goods for which prime cost prices or provisional sums are included in the Specification or Bill of Quantities and Prices who may at any time be nominated, selected or approved by the Engineer;

“Tests on Completion” shall mean such tests as are prescribed by the Specification to be made by the Contractor before the Works is taken over by the Employer.

Words imparting the singular only shall also include the plural and vice versa where the context so requires. The headings or notes in these General Requirements shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

C3.1.2. SITE ESTABLISHMENT

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 for removing all facilities established on site after his work is completed.

It shall be expected from the Electrical Contractor to erect a site office with surrounding fence. The surrounding fence to be 1,8 m high, with Y shape frame on top and equipped with barbed wired. Lockable gates must form part of the surrounding fence. This site yard must therefore provide adequate security to all material stored, even if it means that the Contractor must provide for a trench alongside the fence. The site office must be equipped with furniture for meeting purposes and the Contractor must decide to have a full-time security guard, keeping close watch over all material stored in this yard. Pin boards shall be provided in site facilities to accommodate all project and construction drawings.

Contractor must decide to have a full-time security guard, keeping close watch over all material stored in this yard. The Contractor must also provide for all the necessary sanitary toilets, water, rain gauge etc. The Contractor shall cater for his own water, electricity, and sanitation requirements.

The Contractor must also erect a name board, with a size of 2 800 mm x 3 222 mm, at a suitable place to be pointed out by the Engineer. For further details, refer to the drawing of the name board which forms part of this project specification.

The Engineer will indicate the preferred site; the onus is on the contractor to verify if the proposed site is suitable. If applicable, the Contractor shall submit a Site Establishment application to the Building and Land Use Department on the prescribed application form of the Municipality which can be obtained from the Building and Land Use Department.

C3.1.3. SITE INSTRUCTION BOOK

The Contractor shall make provision for a site instruction book (triplicate pages) which shall be always kept in the site office. All instructions and variations shall be written in this site instruction book by the Engineer while attending the site. The onus will be on the Contractor to confirm such instructions and variations in writing, if the Engineer neglects to do so within 14 days after the issuing of this instruction, especially if it has a cost implication.

C3.1.4. SECURITY

The Contractor must arrange 24-hour security with a reputable security company to protect the construction works. The Contractor must take cognisance that he will be responsible for any material theft and the replacement thereof until the date of signing of the Handing Over Certificate.

C3.1.5. DRAWINGS

The tenderer shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. A marked-up set of drawings shall also be kept and updated by the tenderer. This information shall be supplied to the Engineer's Representative on a regular basis. All information in possession of the tenderer required by the Engineer and/or the Engineer's Representative to complete the as built/record drawings, shall be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

C3.1.6. REQUIREMENTS FOR THE PROGRAMME

It is essential for the tenderer to refer to the General Conditions of Contract for certain requirement for the programme.

This tender must be accompanied by a detailed programme based on prior experience and accounting for site conditions. The programme must also make provision for delivery dates of material as quoted by their suppliers. The Contractor must take cognisance of the fact that he/she will be responsible for late delivery of material, except if the supplier can prove that late delivery was beyond their control. The Engineer and the Employer reserves the right to alter the programme to meet the priorities of the Client. These amendments will be such, that the Contractor will still be able to complete the works within the tendered construction time.

Based on the above, the tender must be accompanied by a cash flow report. This information is required for adjudication of the tender and to determine the escalation on the project when applicable. This will also assist the Contractor in putting his/her tender together and finalizing his/her tender price.

When compiling the project programme attention shall be given to the Health and Safety file which may require a permit application before the construction can initiate. Adequate allowance for this process shall be included in the programme if needed.

The Engineer or Project Manager, and his Clerk of Works (if applicable) will have full access to the site and the Clerk of Works (if applicable) is expected to visit the site once a week. A formal site meeting or site inspection will be conducted every second week on a rotational basis.

It shall be expected from the Contractor to forward a weekly progress report to the Project Manager which must be emailed to his office every Friday.

The Contractor must also indicate his/her labour force and equipment on site in this report.

The Contractor must submit a progress report at each monthly, scheduled site meeting based on this original program. The actual and scheduled progress must be clearly indicated in the report. The Contractor must also indicate his/her labour force and equipment on site in this report.

The programme must be, based on the following anticipated dates:

Tender award	- 90 days after the tender closing date.
Commencement date	- 28 days after tender award
Completion date	- To be determined by tenderer.

The programme must also indicate the following:

- Time for site establishment.
- Procurement.
- Survey of MV & LV routes.
- Bush Clearing
- Excavation of MV & LV Poles and stays/struts.
- Dressing of MV & LV Poles.
- Planting of MV & LV Poles and stays/struts.
- Stringing of MV & LV conductor.
- Excavation of MV & LV cable trench.
- Installation of MV & LV cable.
- Testing of MV & LV Network.
- Commissioning of MV & LV Network.
- "Float" for unforeseen delays.
- Handover.

The Contractor must take cognisance that time is of the essence must also allow for normal rainfall during this period in his programme.

Expected delivery date of long lead material must be recorded in the section of this document containing forms to be completed.

C3.1.7. TIME FOR COMPLETION

The Contractor must allow sufficient time in his/her contract working period for delays due to climate and weather according to the average rainfall for this area, as indicated in the special conditions of contract.

Extensions of time will only be granted if evidence can be provided that the delays were caused by abnormal weather conditions.

Claims for rework will not be considered and is an issue for insurance. The Contractor shall however allow slack in the construction programme to cater for any unforeseen circumstances.

The penalty for late completion of the works is indicated in the contract conditions and it is emphasized that time is of the essence. Commencement of the contract will be as indicated in the acceptance letter.

The contractor shall note that strikes/protest action from the community is anticipated. Therefore, strikes / Protest actions do not contribute Force Majeure conditions, which are defined as unforeseeable events. No claim for extension of time and/or costs shall be approved.

The Taking Over Certificate will not be signed prior to receipt of all as-built information as detailed in this specification. This may result in penalties.

C3.1.8. SURVEY

The Contractor must appoint a qualified Land Surveyor to peg the Mv & LV line routes including the positions of the stays. It will be a further requirement that the appointed surveyor verify the constructability of the network and the Contractor shall immediately inform the Engineer if areas are found that may cause construction difficulty.

Prior to commencement of any phase of the project as indicated on the drawings, the Contractor must do a thorough survey to ensure that all pegs applicable to this project are installed. Missing pegs must be reported in writing to the Engineer. The Contractor will be responsible for re-installing all missing pegs, not reported, at his/her own expense on the day of handover of a particular phase.

Any cadastral pegs, where applicable, which are removed accidentally or intentionally by the Contractor during his/her activities, shall immediately be reported to the Engineer.

The Employer's land surveyor shall re-install such pegs at the expense of the Contractor, or the Contractor shall appoint a Professional Land Surveyor to reinstate these pegs. The Contractor must issue a certificate obtained from a professional land surveyor to verify that all pegs are installed to correctly set out the works. A CAD drawing indicating all pegs set out shall be submitted to the Engineer to overlay on the construction drawings to confirm the correctness of the pegs set out.

The Contractor shall, after completion of the contract, employ a land surveyor acceptable to the Engineer and Employer to certify the correctness of the constructed infrastructure. This certificate must be submitted to the Engineer.

C3.1.9. FINAL INSPECTION

After completion of each section of the project, the Tenderer must perform an internal, thorough inspection on all the work done, to satisfy himself that the work complies with the specifications, and then apply in writing to the Engineer for a final inspection.

The application for the final inspection must be accompanied by the as-built drawings. The installation will not be approved before submission of the as-built drawings.

The Tenderer will be liable to pay the Engineer a penalty fee of R 20 000,00 excluding VAT for each re-inspection.

C3.1.10. QUALIFIED PERSONNEL

The Tenderer must submit a list of the staff allocated to this project with proof of their qualifications and experience in the construction and erection of MV and LV reticulation networks.

The Tenderer shall also submit a certificate issued by the Inspector of Occupational Health and Safety, indicating that he is fully competent performing electrical construction work and will therefore be fully responsible for the construction of the works. No work will be allowed before submission of these documents.

The Tenderer shall provide the Employer and Engineer with the names of the supervisory personnel on site before commencement of the contract works.

If the Contractor, during any stage of the contract and for whatever reason, desires to change the supervisory personnel on site, he will do so in writing to the Employer and Engineer. Failure to do this will result in the Engineer halting the contract works until such time the necessary documentation is provided. Any such delays will not be considered by the Engineer for late completion of the contract. The replacement supervisory personnel shall comply with the minimum requirements as stipulated in the tender documentation.

C3.1.11. CONTRACTOR'S RESPONSIBILITY

C3.1.11.1. GENERAL

Until the Contract Works have been completed or deemed to have been completed, the Contractor shall be responsible (subject to the Conditions of Contract) for the Contract Works, whether under construction, during tests, or in use for service.

The handling and storage of materials and equipment near the erection site prior to installation shall be done in a tidy and safe manner. The Contractor shall at his own expense, keep the site area allocated to him, and the erection area of the Contract Works, reasonably clean and shall remove all waste material as it accumulates, and as directed by the Engineer from time to time. There shall be no Safety, Health, Environmental or Quality impact due to the installations carried out and the Contractor shall take full responsibility for all construction methodologies.

Storage of materials shall not be permitted without prior approval, and the Contractor shall take all necessary steps to protect any materials stored on the site.

When the work is completed, the Contractor shall remove all rubbish and debris, unused materials, temporary erections, and plant and shall leave the site of the work clear. The Contractor shall also make good at his own expense, any damage caused to buildings, plant or property belonging to the owner of the works.

C3.1.11.2. ORDERING OF MATERIAL AND EQUIPMENT

All the material shall be supplied by the tenderer, which includes fabrication, according to the relevant standards and specification, transporting to site, off-loading on site, installation and commissioning which will all be undertaken by the successful tenderer.

The offloading and safekeeping of material off-site is the responsibility of the Contractor.

The successful Tenderer shall attend meetings at venues and at times, as may be arranged by the Engineer, after having been advised that his/her Tender has been accepted, for the purpose of coordinating the technical requirements and the time frame of the project, so that orders can be placed for the correct materials.

Contractors must note that materials and equipment on long delivery shall be ordered well in advance as late deliveries will be the Contractors sole responsibility. Any applicable escalation on equipment or materials ordered late will be calculated using indices as specified by the Employer. If, for some reason, late deliveries are found to be to the advantage of the Employer, the Contractor will be instructed in writing regarding the delay in ordering of such materials.

Unless otherwise indicated or stated, all units of measurement indicated in the Pricing Schedules, Schedule of Quantities or Bills of Quantities are metric units.

The linear quantities of wire, conduit, trunking, cables, switchgear, fittings etc. as given in the Pricing Schedules, Schedule of Quantities or Bills of Quantities a measured from drawings for Contract document compiling purposes. Contractors can thus not accept that such quantities are accurate when materials are ordered. Before ordering any equipment, materials and cables, the measurements must be finalised on site and must be confirmed with the Engineer. The accuracy or inaccuracy of the Bill of Quantities will not influence the validity of the tender.

At the end of the Contract period a final re-measurement, based on actual quantities, will be done. Any excess cable or material will be for the account of the contractor and payment for excess cable or material will not be considered.

If such measurements cannot be taken at the onset of the Contract, the Contractor shall obtain approval from the Engineer to order the required materials that may cause delays or additional cost due to escalation before ordering such materials as allowed for in the Pricing Schedules, Schedule of Quantities or Bills of Quantities.

C3.1.11.3. WORKSHOP ASSEMBLY

To avoid problems with the erection and installation activities on site, components, equipment, and sub-assemblies must be pre-assembled in the place of manufacture to ensure proper fitting and operation on site. Such pre-assemblies which are to be tested in the place of manufacture, shall be set up in a simulated mode, using the specified peripheral equipment as far as possible in a temporary connected condition to simulate site conditions as accurately as possible. This requirement is applicable to field equipment for electrical and electronic installations.

The purpose of such preliminary testing, shall further be done to check whether the equipment complies with predetermined set values and shall produce certain predetermined set results, as set out in the various parts of the document.

Measurements of equipment shall be taken into consideration to ensure that such equipment and materials can be handled on site and can be placed into the specified positions.

Additional costs or delays resulting from failure on the part of the Contractor to check access conditions, positions, openings, etc., will be for the Contractors account.

Individual units of equipment shall be clearly marked by employing an identification code in such a manner that actual re-assembly, erection, and installation on site can be done in the minimum of time with a minimum of fitting and adjusting on site.

Equipment should be delivered to site in the largest sub-assemblies that are practical.

Equipment of the same type shall all be obtained from one manufacturer and sub-components shall be changeable. Prior to manufacture, the Contractor shall ascertain the critical dimensions of points of entry to the building.

The Engineer may, upon request by the Contractor, inspect existing installations of prototype assemblies in the factory to determine whether the extent and workmanship of such units are of the required standard for the Contract. This may be done to obviate the possibility of having to replace unacceptable equipment already installed.

C3.1.11.4. DELIVERY OF EQUIPMENT

The Contractor shall make the necessary arrangements to get all equipment delivered to site in accordance with the Programme of the Works and in an undamaged condition.

The Contractor shall pack equipment and material for transport and delivery in soundly constructed crates or other packages fitted with removable lids or openings for inspection.

All parts of the equipment prior to packaging, shall have been thoroughly protected to preclude damage during transport and storage.

Any damage that may occur in transit or storage must be repaired, corrected, or replaced by the Contractor before such materials or equipment is installed. Any parts of items found to be defective after installation on site, shall be replaced or repaired at the Contractor's expense, to the Engineer's approval

The Contractor shall be responsible for the acquisition of any insurance cover that may be required for equipment in transit and temporary storage on and off site.

All the lifting and erection equipment required by the Contractor to off-load, install, or erect equipment on site is deemed to have been allowed for by the Contractor in the Contract price, as no assistance in this regard will be provided by the Employer or other Contractors.

If no item has been measured in the Pricing Schedules, Schedule of Quantities or Bills of Quantities for such handling equipment, the rate of the item to be handled shall include such handling costs.

Materials stored off-site must be repacked or protected, after inspection, to provide the necessary protection thereof for transport to site.

C3.1.11.5. MATERIAL MANAGEMENT

The Contractor will be fully responsible for the transporting of all materials and equipment to the off-site storage facility or on-site and will provide the off-loading, rigging, lifting, handling and placement thereof into the permanent position as planned for the equipment. The Employer will not provide any assistance or equipment for the placing of equipment into position or materials

The Contractor shall administer this material according to store bookkeeping system by means of computer aid. A stock taking report shall be submitted to the Project Manager on a two-weekly basis.

It will always be assumed that the Contractor has ensured upon issue of material that no visible damage has occurred to it. In the case of damaged material, acceptance will be refused. If a dispute arises, the Executive Director: Engineering of Midvaal Local Municipality shall be called in for a decision. Damage material found on site will be replaced at the cost of the Contractor and no extension of the contract time will be granted for the extra delivery time.

All material must comply with the requirements of the latest revised SANS or IEC Standards.

If offered material do not comply or fails the specified tests, the contractor shall at his cost replace the material or equipment that do not comply or has failed the specified tests. All replacement equipment or material shall comply with the relevant specifications.

C3.1.11.6. OFF-SITE HANDLING OF MATERIALS AND SAFETY

Equipment and materials stored off-site shall be stored in a safe, dry, and clean environment and shall be protected against damage, from the elements and theft. Electrical and electronic equipment shall not be assembled, stored, or tested in areas where grinding, welding, or painting work takes place. Damaged equipment and materials, stored in factories or stores of the Contractor, will be rejected upon inspection.

Areas in stores or places of manufacture for testing or inspections of equipment and materials by the Engineer shall be clean and safe for the purpose of testing or inspections. Floors must be free of loose materials, dirt, and debris.

Equipment and materials will not be inspected in noisy or dirty environments and not in areas where welding, grinding, and painting or any other manufacturing processes are underway. Testing or inspections will not be undertaken in hazardous or explosive atmospheres.

Materials stored in the stores of the Contractor or in alternate storage space, and which is acceptable to the Engineer for off-site certification for payment, shall only be certified for payment under the conditions as laid down in this document.

C3.1.11.7. ON-SITE HANDLING OF MATERIALS AND SAFETY

Equipment and materials stored on site shall be stored in a safe, dry, and clean environment and shall be protected against damage, from the elements and theft.

Heavy materials shall be stored in a manner as not to create a danger to other Contractors or to the Employer or the Engineer.

Small materials shall not be left lying around on site. Expensive, small items such as instrumentation or electronic components shall be kept under lock and key until the installation thereof.

Storerooms used by the Contractor shall be kept locked to prevent unnecessary loss of materials.

Redundant material, which is the property of the Employer, shall be removed from site and either be reused elsewhere or returned to the Employer through the relevant processes. If clear directions are not available in this regard, the Contractor shall obtain instructions for the removal of the equipment from the Engineer. No redundant material shall become the property of the Contractor or any other party and shall remain the property of the Employer unless decided otherwise by the Employer.

C3.1.11.8. RE-LABELLING

The Contractor shall be responsible to attend to all labelling requirements that arise with any system installation. All labelling requirements shall be allowed for in the unit rates of the Contractors priced bill of quantities. A schedule of labels shall be compiled by the Contractor and submitted to the Engineer for approval.

C3.1.11.9. CONSTRUCTION METHODS

Before initiating any construction, the Contractor shall compile a list of all defects per sectional area and verify such defects alongside a duly authorized representative. The repair of any damage not listed shall be the full responsibility of the Contractor, the Employer shall under no circumstances be held responsible for payment of damages done by the Contractor or damages not listed prior to initiating construction.

Where the Contractor will perform trench work, it shall be the Contractor's responsibility to request that the employer scans the trench for any existing services, especially cables at substations. The Contractor shall mark the trench positions clearly by means of chalking.

The Contractor shall ensure that all wayleaves are approved prior to commencement of any work and shall be responsible for maintaining any pre-approved wayleaves.

C3.1.11.10. SITE SAFETY

NOTE: Tenderer's and Contractors must ensure that they have read and understood the requirements of this document.

The requirements of the Occupational Health and Safety Act, Act 85 of 1993 and the requirements of SANS 10142-1 (or the latest edition thereof) shall be complied with as far as site safety is concerned. Excavations shall be barricaded, backfilled, and compacted as soon as possible after excavating to allow safe passage for persons and traffic on site.

Contractors shall not allow any workers to work in excavations deeper than 1m, unless the sides of the excavations are properly shored and supported, especially in sandy or wet soil conditions.

Open manholes shall be barricaded.

Deep waterlogged excavations shall be pumped empty as soon as possible after flooding or shall be solidly barricaded until pumped dry.

Open, live, or unsafe power connections shall not be left unguarded or unprotected.

The construction site shall be kept clean and tidy daily.

Off-cuts and rubbish shall be removed from the site and deposited in the designated dumping place daily.

The Contractor shall adhere to all safety rules and regulations as may be in existence on a site or as may be required by the Employer or the Engineer. The Contractor shall also ensure that their workforce on site adhere to safety rules.

Contractor shall not drive or allow a vehicle or machine to be driven close to excavations. Contractor shall keep all power connections and/or live equipment with voltages above 50V, temporary or permanent, in a good and safe condition and shall keep all doors, shutters and covers closed on such equipment, during construction, testing and commissioning and shall take all steps to prevent accidental contact of live equipment by any person.

The Contractor shall take control over any power cable or power circuit connected from equipment installed by him, or under his control and which operates at a voltage higher than 50V. The Contractor shall not energise such a cable or circuit and shall not grant permission to any other person on the site to energise such a cable or circuit without first having made sure that such action does not create a dangerous situation.

The Contractor shall not connect any portion of an installation to the point of supply of a Supply Authority without first having complied with the requirements and regulations of such an Authority as far as tests, certification or clearance from the Authority is concerned and not until permission is obtained from the Engineer in this regard.

Any damage to equipment of other contractors or the Employer due to equipment being supplied by such an unauthorized power connection shall be for the account of the Contractor for this Contract.

The Contractor shall not energise any portion of an installation until the earth points of power equipment in such installation have been properly bonded and earthed to a known good earth point with a value of 5 ohm or less, referred to zero, as tested with a null balance megger.

C3.1.11.11. EXISTING SERVICES

The tenderer should take note of existing cables and other services. The services may be buried and cannot be accurately pinpointed. Therefore, all excavations must be done with care.

The tenderer shall acquaint himself with the position of all the existing services such as storm water pipes, water mains, sewer mains, gas pipes, telephone cables, etc. before any excavations are commenced. For this purpose, he shall approach the Engineer's representative, the local municipal authority, and any other authority, which may be involved, in writing.

The Electrical Contractor shall accept full responsibility for any damage caused by excavation work, whether caused directly or indirectly and whether written permission has been granted for machine excavation or blasting, or not.

Repair of damaged services undertaken by the Electrical Contractor shall be to the satisfaction of the owner of the service. The cost of repair work undertaken by the owners of the service as well as consequential losses due to the damaging of the service will be recovered from payments due to the Electrical Contractor without notice unless proof of direct payment to the owners can be produced.

The Contractor shall report any damaging of existing services immediately to the Engineer as well as the owner of the service, irrespective of whether the damage is considered a minor damage or not. Apart from reporting damage, an entry shall be made in the site diary, indicating the time of occurrence, extent of the damage, time reported, and names of the persons reported to at the Consulting Engineers as well as Owners of the service.

Penalties shall be levied for damage caused to existing services caused under the following circumstances:

- a) Damage due to machine excavation or blasting without the written permission of the Engineer.
- b) Damage which the Contractor failed to report to the Engineer as well as the owners of the service, or which the Contractor failed to enter comprehensively in the site diary.
- c) The penalties referred to above, shall be 100 % of the cost of repair work carried out by the owner of the service as well as 100 % of the value of consequential losses as calculated by the owners of the service. Any such penalties shall be recovered from any payments due to the Contractor

C3.1.11.12. DESIGN RESPONSIBILITY

Preparation of all detail's designs, manufacturing drawings and documentations for approval specified throughout the enquiry document shall initiate once the successful tenderer has received a Letter of Acceptance.

The tenderer shall be responsible for furnishing all equipment detailed designs as well as the protection schemes based on the specification. The tenderer shall submit the initial design drawings to the Engineer for a design review and the allowed duration for the design review by the Engineer shall be 10 working days and excluding the day when the designs are submitted for approval. The design freeze will be only granted after approval by the Engineer. The tenderer shall submit all outline drawings and design details including requested supporting documents within a reasonable time frame and prior to the commencement of the equipment manufacturing.

It is envisaged that detail design of the following but not limited to will be required:

- 22 kV transformer.

The following documentation and drawings shall be submitted for approval:

- All primary plant equipment drawings.

Note: all drawings shall be submitted in hard and soft copy – soft copies shall be in editable dxf / dgn format.

Five sets of the following information are required on completion of the works:

- Operation and Maintenance manuals.
- Commissioning Reports.
- Design Drawings.
- Factory Acceptance Testing Reports.
- Commissioning Reports.
- As-built drawings.
- Soft copy of all documentation

C3.1.11.13. FACTORY TESTS AND INSPECTIONS

The tenderer will also be responsible for arranging Factory Acceptance Tests (FAT) at the OEM, which will be attended by the designated Employers Personnel and the Engineers Representative/s.

All completed equipment shall be subjected to an internal Acceptance Testing to be performed by the manufacturer, to satisfy himself that the equipment complies with the specifications.

The Contractor shall inform the Engineer of equipment tests or any part of an installation in the place of manufacture or on site is ready for inspections or tests. The Engineer shall be given sufficient notice in advance of inspections or tests and final dates and times of such inspection will then be confirmed with the Contractor by the Engineer. The inspection or testing of manufactured equipment in a factory by the Contractor or by any other test facility in the presence of the Engineer must not be regarded as acceptance of responsibility by the Engineer for the correct performance of such equipment on site.

The OEM shall issue a list of all proposed tests to be conducted during the FAT to the Engineer for approval. The manufacturer shall issue a list of all proposed tests to be conducted during the FAT to the Engineer for approval 12 weeks prior to the scheduled FAT.

The Contractor shall provide a clean and safe testing area in the place of manufacture of any equipment to be tested and inspected by the Engineer. The area shall be open and accessible, and tests or inspection will not be carried out in cramped or dangerous areas. No tests or inspections will be carried out in areas where overhead cranes or hoists are in operation.

All live equipment shall either be screened off or enclosed so that inspecting persons are not endangered during such tests or inspections. Inspections or tests will not be carried out near paint areas, paint booths, ovens, grinding or polishing areas or on equipment which are still under construction.

Tests will not be done by the Engineer in areas where a normal conversation cannot take place due to background noise. Test equipment, test leads, clean writing top space and all other facilities shall be provided for the Engineer during such tests. The Engineer reserves the right to instruct the Contractor to carry out the re-testing of any equipment which does not pass the first inspection or test.

The Tenderer will be liable to pay the Engineer a penalty fee of R 20 000,00 excluding VAT for the purpose of any re-testing of equipment which failed to pass the first or a previous test and the penalty fee will be for the account of the Contractor. Any delays in Contract time caused by failures of inspections or tests will also be for the account of the Contractor.

The factory tests shall be done as far as possible with full control conditions as may be experienced on site. All remote controls of equipment must be simulated during these tests by using temporary connected toggle switches to replace remote field devices such as sensors, switches, contacts, etc. Temporary simulated signals

for the future field instrumentation or signals for future controls and field instrumentation must be available during the factory tests and must be fully operative and all field signals must be simulated during these tests by using appropriate signal generators or signal sources.

The following equipment shall be subjected to Factory Acceptance Testing:

- 22 kV Transformers.

If any of the equipment specified is manufactured and/or assembled outside the Mpumalanga Province or South Africa, the tenderer shall make all the necessary arrangements for three (3) Engineer representatives and three (3) Employer representatives and one (1) Contractor representative to witness the FAT at the manufacturer. The cost thereof shall be for the account of the tenderer. The tenderer shall include into his unit rates of the FAT for flights to and from the manufacturer, accommodation in a four (4) star hotel or guest house, breakfast, lunch, and dinner as well as local transport to and from the manufacturer to the accommodation. It will further be a requirement that separate rooms are booked for the representatives that will be attending the FAT.

C3.1.11.14. TRAINING OF PERSONNEL

The training of personnel of the Employer or User of the Works shall only be applicable to the Contract.

Training provided by the Contractor and OEM shall be directly applicable to the actual equipment to be used at the installation. Training shall be carried out on site and at the OEM's works. The priced unit rates in the bill of quantities shall allow for all travel, accommodation and living expenses.

All the training shall be presented by the OEM and allowed for by the contractor in the bill of quantity's unit rates.

Operators of the installed equipment shall be trained by The Contractor to operate the equipment and controls safely and successfully.

This training course shall include the training of technical personnel of the Employer during the installation period and commissioning stages of equipment on site to make the technical staff and or skilled operators completely conversant with the installed equipment and the use thereof.

The Employer thus reserves the right to appoint certain staff to the Contractor's team during the installation and commissioning phase of the work for training as described in the previous paragraph. The Employer will bear the cost of salaries, accommodation and other allowances and traveling expenses of its personnel, but all other expenses to allow the personnel to attend the said training on site shall be borne by the Contractor.

The Employer may also decide to request the Contractor to make use of the ability of the staff of the Employer to assist with physical installation and commissioning work, and in such instance the Engineer will instruct the Contractor accordingly.

The Contractor shall provide all course material including manuals and training data in this case and shall present well prepared lectures of the courses in locations which suite the Employer.

Advanced training courses shall proceed within one month after date of first hand-over of the section of the Works.

The Contractor shall price the items allowed for training in the Bill of Quantities of the tender document.

At conclusion of any training period, either for the operation and maintenance of equipment, or for advanced software and programming, the Contractor shall issue the necessary certificates at the end of the course and/or a signed statement to the effect that these training sessions were adequate.

The tenderer shall also be responsible for arranging formal training by the agency, distributor, or accredited supplier for all specified equipment offsite as well as on site, which will be attended by the Maintenance Personnel of the Employer and the Engineers Representatives. The offsite training shall be held at a premise of the supplier. The number of delegates will be as specified in the Bill of Quantity (BoQ).

Training shall be provided in a classroom environment, the OEM shall provide relays or equipment for each delegate attending the training session which will allow for practical interaction with various control, monitoring and measuring equipment. Training material shall include the necessary equipment manuals and software.

Training content shall be approved by the original equipment supplier if the supplier is not the original equipment manufacturer.

Training shall as a minimum have the following objectives.

- Enable the trainee to operate the equipment with confidence.
- Ensure that equipment shall be correctly maintained.

C3.1.12. PAYMENTS

Payment application will be assessed once a month and the claim must be agreed to and approved by the Engineer. The claim must reach the Engineer's office 7 calendar days prior to the agreed invoice submission date.

The Engineer will not issue any certificate for interim payment of any equipment and material that is stored on or off site in such a way as to hinder inspection thereof.

The Employer reserves the right to be under no obligation to pay for material delivered to or off site and shall take preference for payment to the Contractor after commissioning of the works. The Contractor shall price the preliminary and general section if the bill of quantities adequately allowing for all overhead costs during the construction period.

Materials or equipment stored on or off site and packed in crates or boxes must be opened for inspection and the serial numbers, types or quantities must be easily identifiable by the Engineer before payment for such materials will be processed.

Payment will further not be certified for small materials such as short pieces of cable, conduit, wire, conduit boxes, saddles, screws, etc., that are stored on or off site. Payment for such materials will only be certified once the materials have been built in, installed, or commissioned. In special cases, 80% payment for material on site may be considered subject to approval.

Interim payment will only be considered subject to the following conditions:

- a) The equipment must be complete and in a ready state for installation or commissioning. Loose components which are not yet built into, or which will form part of the large materials mentioned in the previous paragraph, will not be considered for payment. (An example hereof is, for instance, instruments that must be fitted in a cabinet and are still in separate storage.)
- b) The materials which are to be type tested, performance tested, or safety tested should have already passed inspections and/ or tests by the Contractor and/or the supplier of the equipment.
- c) The Contractor shall, prior to submitting interim payment claims, procure financial assurance by means of the guarantee from a registered bank, on the form provided by the Engineer, and equal to the total amount of payments to be made to the Contractor.
- d) The total value of such guarantee, provided by the Contractor to the Employer, may be varied by the Contractor, with the consent of the Employer, from time to time provided that the Employer will be always covered to the total amount paid by the Employer to the Contractor for items not yet built into the Works.

The guarantee will lapse 24 months after signed acceptance without reservation by the Engineer and Employer and all the said equipment and/or materials have been built into the permanent Works.

The material must be stored in a cordoned off area in the stores of the Contractor and a notice must be affixed to this area stating that the materials stored in that area are the property of the Employer. The area must be safe and not near flammable liquids or explosive equipment and must be kept clean and dry.

C3.1.13. PROJECT SPECIFICATION

The following project specifications are integral parts to this project specification, some of which may be included under separate cover:

PSE 01 – Overhead Reticulation

PSE 18 – Distribution Transformers

PSE 100 – Using of Manpower

I / We, the undersigned hereby acknowledge that copies of the above documents are included in the tender document and confirm that I / We fully understand them and the consequences of non-compliance.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

NAME:

SIGNATURE:

CAPACITY:

C3.1.13.1. ESKOM STANDARDS

As part of achieving a standard specification countrywide and with Eskom playing a leading role in the compilation thereof, Eskom's specifications have been used throughout this document.

Please note that all references to Eskom will be regarded as Midvaal Local Municipality.

It is therefore required that all tenderers must have access to the Eskom specification, via the Eskom Web at <https://scot.eskom.co.za/>. Please note that a fee is payable to Eskom for this service.

Application can be made to:

- Mrs Brenda Morrison
- Assistant Officer
- Tel: (011) 629 5266
- Fax: (086) 662 6387
- E-mail: Brenda.morrison@eskom.co.za

C3.1.14. OVERHEAD RETICULATION (PSE 01)

C3.1.14.1. GENERAL

This specification covers the supply, delivery and installation of overhead reticulation networks that is suitable for use on Medium Voltage Network up to 22 kV and Low Voltage Network of 420/242 V (three-phase four wire), 50 Hz systems.

C3.1.14.2. DRAWINGS

This is a list of all the drawings referenced or described, the list includes drawings which are standard and may not be attached but which are part of the PROJECT SPECIFICATIONS.

Table 2: Drawings

Title	Number	Rev	Attached Y/N
9 m WOODEN POLE	D-DT-0055	14	N
11 m WOODEN POLE	D-DT-0051	17	N
12 m WOODEN POLE	D-DT-0053	15	N
13 m WOODEN POLE	D-DT-0056	9	N
14 m WOODEN POLE	D-DT-0054	10	N
MV THREE PHASE STAGGERED VERTICAL 600 SPACING INTERMEDIATE - 0 DEG. DEVIATION	D-DT-1710	3	N
MV THREE PHASE VERTICAL 600 SPACING – INTERMEDIATE SMALL (1 +/-10) DEG. DEVIATION	D-DT-1711	3	N
MV THREE PHASE VERTICAL 600 SPACING – INTERMEDIATE MEDIUM (+15-20) DEG. DEVIATION	D-DT-1712	4	N
MV THREE PHASE VERTICAL 600 SPACING STRAIN - 0 DEG. DEVIATION	D-DT-1713	2	N
MV THREE PHASE VERTICAL 600 SPACING – STRAIN SMALL (1 -30) DEG. DEVIATION	D-DT-1714	3	N
MV THREE PHASE VERTICAL 600 SPACING – STRAIN LARGE (30-90) DEG. DEVIATION	D-DT-1715	3	N
MV THREE PHASE VERTICAL 600 SPACING STRAIN – TERMINAL	D-DT-1716	3	N
MV THREE PHASE DELTA 2x2500 WOODEN X-ARM / 1700 STEEL X-ARM STRAIN (60-90) DEG DEVIATION (FOR MINK AND HARE CONDUCTOR)	D-DT-1745	5	N
MV RETICULATION INSULATION COORDINATION WOOD / CONCRETE POLES INTERMEDIATE	D-DT-0310	6	N
MV RURAL RETICULATION PHASE CONFIGURATION THREE PHASE	D-DT-0311	3	N
MV RETICULATION STAY ATTACHMENT ANGLE STRUCTURES	D-DT-0312	10	N
MV STAY ATTACHMENT TERMINALS	D-DT-0313	5	N
LV & MV TYPE 1, 2 AND 3 TYPE SOILS POLE FOUNDATION ARRANGEMENT	D-DT-0330	6	N
LV AND MV POLE PLANTING DEPTH DETAILS	D-DT-0330	8	N
LV AND MV STAY ASSEMBLY	D-DT-0341	17	N
LV AND MV STRUT ASSEMBLY	D-DT-0342	4	N
LV AND MV FLYING STAY ASSEMBLY	D-DT-0343	4	N
LV AND MV STAY ROD INSTALLATION NON-AUGURED HOLES	D-DT-0350	13	N
WOOD POLE / WOOD STRUT POLE FOOT PLATE AND SOIL ANCHOR ASSEMBLY	D-DT-0351	5	N
EQUIPMENT MOUNTING ASSEMBLY SURGE ARRESTER	D-DT-0261	4	N
EQUIPMENT MOUNTING ASSEMBLY SINGLE PLATFORM (SHEET 1 - 2)	D-DT-0271	4	N
EQUIPMENT MOUNTING ASSEMBLY DOUBLE PLATFORM (SHEET 1 - 2)	D-DT-0273	3	N
EARTHING TRF SINGLE POLE MOUNTING (MV & LV ELECTRODE AT TRF) (SHEET 1 - 2)	D-DT-0627	7	N
EARTHING (ALT 1) LV ABC RETICULATION EARTHING (AT TRF) (SHEET 1 - 2)	D-DT-0637	7	N
TRANSFORMER 100-200KVA 2 POLE PLATFORM MOUNTED (H-POLE) EARTHING DETAILS (SHEET 1-2)	D-DT-1861	3	N
TRANSFORMER 300-500KVA 5 POLE DOUBLE PLATFORM MOUNTED EARTHING DETAILS (SHEET 1-1)	D-DT-1862	4	N
11kV & 22kV DISTRIBUTION TRANSFORMERS 1 & 3 PHASE	D-DT-3021	11	N

CONDUCTOR, STRANDED	D-DT-3136	13	N
THREE PHASE BARE NEUTRAL ABC SUSPENSION ASSEMBLY (0 - 30 DEG) WOOD POLE	D-DT-1100	4	N
THREE PHASE BARE NEUTRAL ABC TERMINAL ASSEMBLY WOOD POLE	D-DT-1120	5	N
THREE PHASE BARE NEUTRAL ABC STRAIN ASSEMBLY (0 - 60 DEG) WOOD POLE	D-DT-1121	5	N
THREE PHASE BARE NEUTRAL ABC STRAIN ASSEMBLY (60 - 90 DEG) WOOD POLE	D-DT-1122	5	N
THREE PHASE BARE NEUTRAL ABC T-OFF ASSEMBLY FROM INTERMEDIATE WOOD POLE	D-DT-1140	5	N
THREE PHASE BARE NEUTRAL ABC CROSS INTERMEDIATE – INTERMEDIATE ASSEMBLY WOOD POLE (SHEET 1 -2)	D-DT-1141	5	N
THREE PHASE BARE NEUTRAL ABC T-OFF ASSEMBLY FROM STRAIN WOOD POLE	D-DT-1142	5	N
THREE PHASE BARE NEUTRAL ABC CROSS INTERMEDIATE – STRAIN ASSEMBLY WOOD POLE	D-DT-1143	5	N
COND, AERIAL BUND XLPE (SHEET 1 - 4)	D-DT-3141	12	N
THREE PHASE LV FUSE HOLDER CONNECTION (SHEET 1 – 4)	D-DT-0309	6	N
LV FUSE HOLDER 1 000 V (SHEET 1 – 6)	D-DT-3182	12	N
NEUTRAL S/A 6KV, 10KA	D-DT-3088	9	N
SERVICE CONNECTION TO HOUSE (SHEET 1 - 5)	D-DT-0360	16	N
CABLE 1 kV SERVICE CONCENTRIC CU	D-DT-3140	12	N
METERING UNIT + ELECTRICITY DISPENSERS (SHEET 1 - 16)	D-DT-3145	7	N

C3.1.14.3. GENERAL REQUIREMENTS

The MV overhead line must comply with the requirements of SANS 10280 (NRS 041-1) and NRS 092.

The LV and MV wooden poles shall be 9 m and 11 m respectively in length and shall comply with SANS 754 and NRS 073. Only Eucalyptus poles with a fibre stress of 63 MPa and with a minimum pole top diameter specified in the Bill of Quantities shall be used.

C3.1.14.4. EXCAVATIONS

Excavations for pole holes and stays are indicated below and must comply with the requirements of NRS 092 and SANS 1200 DA. The Contractor must allow in his excavation rate for over excavations due to blasting, removing of additional rock etc.

The hole sizes are as follows:

Table 3: Hole Sizes

	13 m pole	12 m pole	11 m pole	9 m pole	7 m pole	5 m pole	Stay 1,5 m rod (LV Stay)	Stay 2,0 m rod (MV Stay)
Width	1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Breadth	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6
Depth	2,2	2	1,8	1,5	1,3	1,0	1,3 (max)	2,15(max)
Excavation (m3)	1,584	1,44	1,296	1,080	0,936	0,720	0,936	1,44
Add bags of cement to excavated soil	3	3	2	1	1	1	1	2

All poles must be planted at 0,5 m from the stand boundary as indicated on the drawings. Special care must be taken not to damage any existing services. In the event of hard rock nearby existing services, the Contractor shall make use of a compressor air drill to do excavations.

The maximum distance the eye of the stay may protrude out of the ground is 150mm. The minimum distance between the stay plate and the poles are as follows:

- a) 9,0 : 6 m

b) 11,0 m : 7,5 m

All stays shall be installed as indicated on Eskom drawing D-DT-0350. The stay hole shall be backfilled and compacted as specified in Eskom Standard 240-75883148.

C3.1.14.5. EXPLOSIVES:

The Contractor is to make adequate provision for blasting which, together with the necessary storage and handling of explosives, shall be carried out in strict accordance with the Explosives Act (No 26 of 1956, as amended) and Regulations. Care shall be taken that no damage is caused to existing works and property, and adequate protection shall be provided to prevent blasted materials scattered about. The size of charges shall be the minimum necessary for the purpose. The Contractor shall be solely responsible for damage and injury caused by or during blasting and shall make good at his own expense, and to the satisfaction of the Engineer, any unnecessary shattering of rock or disturbance of the surrounding ground.

Careless use of explosives will render the Contractor liable to be forbidden for further use of explosives.

Blasting will not be permitted in any situation where it is likely to endanger any existing foundation, structure or service and in such situation, material must be removed by drilling and wedging or barring or by any other approved method which will not cause damage.

At least one working day before commencing drilling and blasting operations on any new section of the works, the necessary safety precautions shall be arranged by the Contractor.

No blasting is to be done before permission has been granted from the Engineer.

C3.1.14.6. MARKING OF WOODEN POLES

The Contractor shall be responsible for providing numbering labels on all wooden poles.

The numbering labels shall be manufactured from galvanised sheet steel of minimum thickness 0,8 mm.

The numbering labels shall be fixed to poles at a height of 2,0 m above ground level, facing towards the street, by means of galvanised 10 mm strap on the upper and lower side of the label.

The numbers shall be 10 mm high and be punched with a number and letter punch as indicated on the house connection drawings.

An additional numbering label shall be mounted on all MV poles. The number labels shall be fixed at a height of 2.5m above the ground level. The label shall be sheet metal, yellow painted with black letters. The letter size shall be 28mm x 15mm.

The Contractor shall be responsible for providing numbering labels on all wooden poles.

The numbering labels shall be manufactured from galvanised sheet steel of minimum thickness 0,8 mm.

The numbering labels shall be suitably fixed to poles at a height of 2,0 m above ground level, facing towards the street.

C3.1.14.7. POLE MOUNTED TRANSFORMERS

The pole mounted transformers must comply with the requirements of GSE19.

The transformer shall be an oil type and installed at a height of 6 m minimum clearance between ground level and bushings.

As shown on the project drawings, two types of transformers are going to be used in this project:

As shown on the project drawings, all 315 kVA transformers shall be mounted on a H-pole transformer platform configuration, complete with surge arrestors on the transformer primary and dropout fuses mounted on the

wooden cross arm. The dropout fuses across the arm shall be mounted 1 100 mm above the transformer bushings.

Tamper distribution enclosures shall be designed to host 1 x 500A, 10kA, 3 pole MCCB and 5 x 200A, 10kA, 3 pole, MCCB for distribution of power to LV ABC feeders.

Each ABC shall have a dedicated 70 mm² PVC insulated cable to the transformer with suitable glands at the transformer.

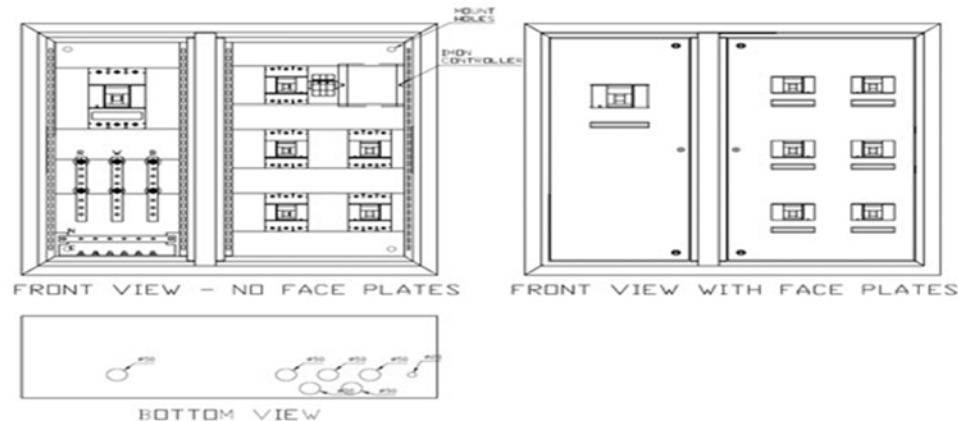


Figure 1: Transformer Protective Enclosure

The transformer protective enclosure shall be manufactured from 3 mm 3CR12 with a cyberlock.

The Contractor must take special care to adjust the length of all tails to ensure that they are not too long or too short. The Contractor must obtain approval from the Engineer after completion with the first transformer installation and before proceeding with the rest.

All metal parts of the transformer shall be connected to the MV earthing system.

The Contractor must take special care to use bi-metallic lugs to terminate the Aluminium cable onto the transformer LV copper bushing. The use of density paste in the lugs is also recommended to keep the moisture out.

C3.1.14.8. MV OVERHEAD RETICULATION

The MV overhead reticulation shall comply with the latest revision of the Medium Voltage Reticulation Standard, Part 4 as compiled by Eskom as well as the SANS and NRS specifications.

The various codes used on the drawings are according to the specification and the quality of material, construction procedures and the related items shall all be according to Eskom Specifications.

The MV network consists of MINK ACSR conductor mounted on 11 m wooden poles as specified in the Bill of Quantities in a staggered vertical configuration. The h-pole mounted transformer structure shall be 11 m and 9 m wooden poles and the H-pole structure poles shall be 11 m and 9 m wooden poles.

C3.1.14.9. LV OVERHEAD RETICULATION

The LV overhead reticulation shall comply with the latest revision of the Low Voltage Reticulation Standard, Part 3 as compiled by Eskom, SANS and NRS specifications as well as the general specifications as envisaged below. The various codes used on the drawings are according to the Specification and the quality of material, construction procedures and the related items shall all be according to the Eskom Specifications.

The LV aerial bundle conductor (ABC) layout is shown on the drawings. The LV bundle conductor shall consist of 3 phase conductors and 1 bare neutral conductor. The sizes of the conductor required are shown in the Bill of Quantities and the drawings.

C3.1.14.10. POLE MOUNTED DISTRIBUTION BOARD

The pole top box shall be equal or similar to Power Process Systems IPEM high-security type manufactured from 6 mm 3CR12 with a cyberlock as per PPS drawing *I Pole Box 1-6 way*.

Electronic interface controller must be able to open the door via Blue tooth technology from Smart phone and have the capability of being opened remotely via WI fi if GSM platform activated on the controller.

Both doors to be flush mounted having concealed hinges and fitted with 2 x "Slam Lock" Electronically Activated Locking Arrangements using 800kn actuators; 1 x Main Electronic Interface controller; 1 x Electronic Back-up / Override System; 2 x Door Sensors; 1 x Vibration Sensor as specified.

The pole top shall be fitted to the pole as shown on PPS drawing *I Pole Box 1-6 way*, connected to the ABC with suitable piercing connectors (phase + neutral + earth). Cognizance must be taken that the pole top box will deviate from the Eskom Standard and shall be equipped with 2, 3, 4, 5 or 6 Miniature Circuit Breakers (MCB) 5 kA, 60 A, curve 1 with a tag or label of the erf number.

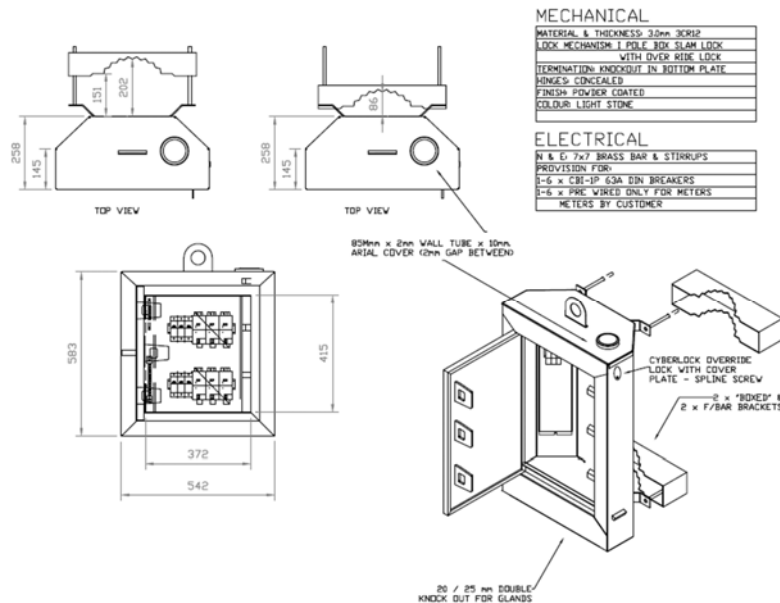


Figure 2: Pole Top Box

A clip-in surge arrestor shall be installed per MCB in the pole top box enclosure. All wiring in the pole top box shall be 16 mm² for the phase and 16 mm² for the neutral and shall be pre-wired in the factory. Wires between the ABC and pole top box shall be 25 mm², UV protected and of suitable lengths. The pole top box must be locked with a special tool or key and must be dust proof.

The Contractor must also supply and install Conlog BEC44 Split Single Phase DIN-Rail mounted with Power Line Communication (PLC). This meter must be supplied complete with customer interface unit and customer card. The contractor will be responsible for the management of these meters. The Conlog meters shall be installed in the pole top box and shall be sealed with a lead seal and tagged or labelled with the erf number. The latch in the meter shall be set to trip at 20 A

The single-phase 1-4 way and 1-6-way pole top box shall therefore be equipped with the following:

- 50 A, 5 kA, Curve 1 MCB with cable sleeve tag of the erf number.
- Conlog BEC44 Split Single Phase DIN-Rail mounted with PLC communication with cable sleeve tag of the erf number and lead seal.
- Clip-in Surge arrestor.

- d) 1 x Live, 1 x Neutral and 1 x Earth busbar.
- e) 3 x 16 mm², Cu conductor, UV protected.
- f) 6 mm² PVC wiring for the phase and the neutral.
- g) Compression glands.
- h) DIN rails.

Programmable Smart Electronic keys are required to have mechanical security as well as access control software security. Master keys must have audit trails.

Electronic keys must have Bluetooth capabilities. Smart Bluetooth keys must have their own mechanical security features. Smart Bluetooth keys must have their own software security features.

The Smart electronic key shall be programmable for single or multiple opening of one or more enclosures.

In case where a key is lost, it shall be possible to disable that key so that it cannot be used. Keys shall be reprogrammable such a way that multiple keys can be used to open a single enclosure and a single key is capable of opening multiple enclosures.

Keys must have their own unique marking number and be uniquely assigned to individual users. Smart keys must have unique pin to update key information.

All key usage shall trigger an audit log of the key and shall be recorded with the date and time stamp. In addition, all programming, key assignment, movement and related events to the key shall be recorded in the audit log.

Keys shall be able to open all assigned enclosures in case of a total loss of network power. The system shall be programmable to assign to one or more users, user group, geographical and operational areas.

Users of the reporting systems shall be granted access based on area of business Operations according to the geographical boundaries defined by municipality. The System shall be able to report based on the Municipality operational areas.

C3.1.14.11. EARTHING

The earthing must comply with the requirements of Eskom standard DST 34-1985. MV and LV earthing shall be separated at the transformer. A minimum separation distance of 5 m shall be maintained between the MV and LV earth electrodes.

The maximum earth resistance for the MV shall be 30 ohms and the maximum earth resistance for the LV shall be 10 ohms.

Earthing shall be done by four 1,8 m x 16 mm diameter copper earth rods installed in a three-point star configuration. Refer to drawing D-DT-0627 and D-DT-0637 for detail. Future transformer poles shall also be earthed.

A 6 kV surge arrestor must be connected between the LV neutral bushing and the transformer earth stud as shown on drawing D-DT-1861 and according to drawing D-DT-3088.

The Contractor must obtain a null-balance megger and do an earthing survey which is to be tabled and submitted to the Engineer prior to final inspection. If an acceptable earthing value cannot be obtained, additional earthing electrodes or conductive concrete shall be installed as an extra to the contract.

C3.1.14.12. LIGHTNING IMPULSE WITHSTAND

The network design allows for a Basic Insulation Level of 300 kV, which will be achieved by means of bonding on all medium voltage and shared structures.

In accordance with Eskom 03TB-034, the conditions that system components are designed to meet are:

- a) To withstand indefinitely the normal and maximum system operating voltages at supply frequency.
- b) To withstand temporary supply frequency over-voltages up to the rated short duration power frequency, withstand voltage.
- c) To withstand lightning impulse over-voltages up to the rated, withstand level

- d) To restore the insulation level after a flashover.

All dressed structures shall have equipotential bonding between insulators, bonding wire shall be 3x3.5 galvanised steel wire. The same wire shall be nailed to wood poles up to the butt end of the pole to serve as a lightning down-wire.

A 500 mm BIL gap shall be maintained below the medium voltage insulators. At the top and bottom of the gap steel banded strapping shall be installed where the down-wire discontinues.

For share structure a second gap of 50 mm shall be maintained at 100mm below the low voltage equipment. The 500mm gap shall not be within 100mm of any low voltage equipment.

Stayed structures do not require a down-wire to be fixed to the pole, the anchor(s) serve as bonding. To achieve the required BIL only longrod fibreglass stay insulator shall be permitted in accordance with D-DT-3144.

C3.1.14.13. READY BOARDS

The ready boards supplied under this contract shall comply with SANS 1619 and shall be equipped with a 40 A double pole circuit breaker, earth leakage unit and 3 x 15 A switched socket outlets. One socket shall comply with the requirements of SANS 164-2. One switched socket outlet shall be protected by a 1 x 20 A MCB and the other two switched socket outlets with 1 x 15 A MCB. The ready board shall be complete with mounting brackets to facilitate the interface of the prepayment meter. When the ready board is fixed to a shanty, 6 mm sink bolts and nuts shall be used with 20 mm square washers. A light-fitting, complete with 20 W energy saver lamp and 5 m cabtyre shall be issued to every customer.

For the built houses, it is envisaged that the Airdac to be terminated onto the existing DB if available.

C3.1.14.14. HOUSE CONNECTION

Each house shall be equipped with an outdoor mounted enclosure (Budgie Box), equipped with a single-phase, 60 A, 5 kA, Curve 2 MCB.

C3.1.14.15. AIRDAC

The Contractor shall supply and install 10 mm² Split concentric service cable (Airdac) with separate neutral and earth for the house connections. Communication cores are not required.

The Airdac shall comply with SANS 063. The house connection cable shall be installed underground.

C3.1.14.16. TESTING AND COMMISSIONING

CERTIFICATE OF COMPLIANCE: COC

Occupational Health and Safety Act (OHS Act) Electrical Installation regulations, 1992 (EIR) Certificate of Compliance: Annex 1 (COC).

In terms of the above-mentioned requirements every electrical installation shall be inspected, tested and a COC issued to the owner and the supplier shall ensure that a COC has been issued before connecting the supply.

NOTE: In terms of the EIR 6(2) a COC must be issued before connecting the supply, but to carry out the tests, it is necessary to have the supply connected to the installation. This anomaly has been referred to the Chief inspector and he accepts that the supply can be connected for testing, but if there is any reason for not being able to issue the COC than the supply must be disconnected immediate.

ELECTRICAL TESTS:

- a) Voltage level tests:

The voltage level and polarity of the installation can be measured and recorded.

- b) Test to ensure that wires have not been crossed:

Install a temporary earth spike of at least 300 mm, outside the dwelling. Connect a lead wire to the earth spike and measure the voltage between the temporary earth and the dwelling earth and neutral. If any reading is recorded the conductors are crossed and no COC shall be issued.

- c) Insulation resistance test:
Disconnect the circuit breaker and record the result in M Ω between live and earth.
- d) Earth fault loop impedance test:
Bridge the earth leakage circuit breaker. Plug the loop tester into ready board. The loop tester should indicate the voltage and correct polarity. Switch is to 20 Ω or 200 Ω and inject 25 A current. Record the reading on the test form.
- e) Operation of the earth-leakage protection device and circuit breaker by plugging an ELCB tester into the ready board in increase milliamps until circuit breaker trips. Record results.

VISUAL INSPECTIONS:

A visual inspection shall be carried out for each service connection and installation by an accredited person signing the COC. This person shall be responsible for the quality control and shall be introduced to the Engineer and this quality control shall be his only task and function.

The Contractor shall supply the Engineer with the following information before any payments shall be made in an Excel spreadsheet format:

- a) Stand number
- b) Customer name and surname
- c) Customer ID Number
- d) Prepayment meter number
- e) Customer Interface Unit number
- f) Seal number
- g) COC number
- h) Length of Airdac
- i) Completion Date

This information shall be recorded on Lyon and Partners type connection slips that will be issued to the successful contractor.

ELECTRICAL TESTS AND INSPECTION

To ensure the safe and reliable operation of an urban reticulation system the following visual inspections, and tests must be done before and after energising. Results must be recorded on the attached record sheets.

VISUAL INSPECTIONS

The visual inspection is to make sure that the as Build System is in conformance with the design.

- INSTALLATION LAYOUT
 - Does the installation and layout drawing correspond?
- TRANSFORMERS
 - Is transformer installed as per Layout Drawing?
 - Is transformer installed labelled as per the Electrification Standard?
 - Is MV surge arresters fitted as per Drawing D-DT-0261, D-DT-0262 or D-DT-0263?
 - Is LV surge arrester fitted as per Drawing D-DT-1861 sheet 2?
 - Is the ABC neutral insulated on the transformer pole as per Drawing D-DT-0308?
 - Is the LV breaker labelled as per the Electrification Standard?
 - Is the MV and LV surge arresters earthed as per D-DT-0308 and D-DT-0340?
 - Is the transformer tank earthed as per D-DT-0630?
 - Is earthing leads protected on wood poles?
- LV FEEDERS
 - Are all LV stays bonded to earth as per drawing D-DT-0120, D-DT-0121 and D-DT-0122 or its equivalent drawings?
 - Is neutral bonded on all conductive poles as per D-DT-0305, D-DT-0306 and D-DT-0307?

- Is the services take off (phases) equally distributed along the feeder as indicated on the Layout Drawing?
- Are the clearances to ground and to shared services according to the Electrification Standard?
- Are the shear heads of all IPC's off?
- Is end caps on phase cores at termination points?
- Is bundle strapped at attachment points to avoid unravelling of the bundle?
- Is neutral and earth leads to the service distribution boxes separately connected on the neutral as per D-DT-0180?
- Is the following points earthed:
 - All T-offs?
 - All terminal points?
 - Intervals not exceeding 150 m?
 - All LV poles one span away from transformer installations?
- Are all wooden poles planted with broad face in line?
- **SERVICE CONNECTIONS**
 - Does the Service Cable continue into the back of the BEC as per the Electrification Standard?
 - Has a certificate of compliance been issued to all connected customers as per Electrical Installation regulations?
 - Are the customers satisfied with placing of the Ready Boards as per the Electrification Standard?
 - Is the installation in the customers dwelling neat and tidy?
 - Is BEC installed as per the Electrification Standard?

ELECTRICAL TESTS:

- **INSULATION RESISTANCE TESTS**
 - Disconnect the LV Feeders at the Transformer. With all pole top box MCB's switched off use a 5 kV Megger and Megger between each phase and earth as well as between phases. Care must be taken to discharge the ABC before disconnection of Megger leads. Record Readings in attached test results sheet.
 - Expected results is 5 MΩ between phases and 5 MΩ between phase and neutral.
- **VOLTAGE LEVEL TESTS**
 - With the pole top box MCB's switched off the feeder shall be energized and the voltages measured at the terminal poles and recorded.
 - The individual pole top MCB's can now be switched on and the polarity of all the installations from each pole tested as well as the Voltage level in each house.
 - Polarity at the pole top boxes shall be tested by measuring the Voltage between the phase bar and the earth stud on the pole as well as between the earth bar and the earth stud and the neutral bar and the earth stud only in the first instance a voltage should be measured.
 - After all consumers are switched on the voltage at the terminal poles must be recorded again.

EARTH ELECTRODE RESISTANCE TEST

Measurement of earth resistance

The best and most accurate method for measurement of relatively small earth electrode systems is described below and the method illustrated in Figure C.2, Connections for earth electrode resistance measurement - 61,8 % method.

- Identify the earth electrode to be tested. Establish the physical layout of the earthing system and type of electrodes being used, for example in the figure the earth electrode is a combination of horizontal counterpoise (trench) electrodes and vertical rods.
- Disconnect the earth electrode from the earthed equipment, preferably at the point where the wire from the equipment connects to the earth electrode.
- Identify the position of the current probe C2. Measurement should be exercised away from the line of any known trench earth, metallic pipe or underground cables. The distance between the electrode under test and the current probe C2 should be five times the biggest of the earth spike length, counterpoise length or the longest diagonal of the earthing system but not less than 30 m.

- Set the potential probe P2 in line with the tested electrode and the current probe C2 at a distance equal to 0,6 of the distance to the current probe. Water the area around the current probe C2 to reduce its resistance thus reducing its influence on the measurement.
- Connect the Earth Tester terminals C1 and P1 to the tested electrode, terminal P2 to the potential probe P2 and the terminal C2 to the current probe C2. Operate the Earth Tester and obtain the resistance reading.
- Repeat the measurements for potential electrode set up at the distances shown in the illustration, i.e. 0,2; 0,4; 0,5; 0,7 and 0,8 of the distance to the current electrode.
- The values obtained by measurement at the six positions (R2 to R6) should be recorded (Table C.1: Earth electrode resistance - 61,8 % method measurement results).
- The resistance of the electrode under test is equal to the value obtained from the graph and corresponding to the distance of 0,618X.

Alternatively calculate four values of R using the following formulas:-

- a) $R = -0,1187R1 - ,4667R2 + 1,9816R4 - 0,3961R6$
- b) $R = -2,6108R2 + 0,0508R3 - 0,1626R4 - 0,2774R6$
- c) $R = -1,8871R2 + 1,1148R3 + 3,6837R4 - 1,9114R5$
- d) $R = -6,5225R3 + 3,6816R4 - 6,8803R5 + 0,7210R6$.

Four values of R, obtained from calculations, should substantially agree and an average of the results may then be calculated. However it is possible that the result from equation (a) will be less accurate than the others. If the result of (a) does prove to be at variance with the others it can be ignored and an average obtained from the three more agreeable figures.

VISUAL INSPECTION RECORD SHEET

INSTALLATION DRAWING NUMBER

DESCRIPTION		YES	NO	N/A
TRANSFORMERS				
1	Is transformer installation labelled as per the Electrification Standard?			
2	Are MV surge arresters fitted as per Drawing D-DT-261, D-DT-0262 or D-DT-02632?			
3	Is LV surge arrestor fitted as per Drawing D-DT-1861?			
4	Is the ABC neutral insulated on the transformer pole as per Drawing D-DT-0308?			
5	Is the LV breaker labelled as per the Electrification Standards?			
6	Is the transformer tank earthed as per D-DT-0630?			
LV FEEDERS				
1	Are all LV stays bonded as per D-DT-0120, D-DT-0121 and D-DT-0122 or ITS equivalent drawings?			
2	Is neutral bonded on all conductive poles as per D-DT-0305, D-DT-0306, D-DT-0307?			
3	Is the services take offs (phases) equally distributed along the feeder as indicated on the Layout Drawings?			
4	Are the clearances to ground and to shared services according to the Electrification Standard?			
5	Are the shear heads of all IPC's off?			
6	Are end caps on phase cores at termination points?			
7	Is bundle strapped at attachment points to avoid unravelling of the bundle?			
8	Is neutral and earth leads to the service distribution boxes separately connected on the neutral as per D-DT-0180?			
9	Are the following points earthed? 1. All T-offs 2. All terminal points? 3. All intervals are not exceeding 150 m? 4. All LV poles one span away from transformer installations?			
10	Are all wooden poles planted with broad face in line?			
SERVICE CONNECTIONS				
1	Does the Service Cable continue into the back of the BEC as per the Electrification Standard?			
2	Has a certificate of compliance been issued to all connected customers as per Electrical Installation regulations of the MOS Act dated 1992-10-23. Regulations R2920 Clause 3.(1)?			
3	Is the customer satisfied with placing of the Ready Boards as per the Electrification Standard?			
4	Does the ready-board contain a SANS 164-2 socket?			
5	Is the installation in the customers dwelling neat and tidy?			
6	Is BEC installed as per Clause 6.6, Part 3 Section 2 of the Electrification Standard?			

PROGRESS REPORT

Commencement date: (Scheduled).....

(Actual).....

Original contract working period : weeks
Delays granted : working days
Revised contract working period : weeks

Activity	Delivery date of material		Installation date of material	
	Scheduled	Actual	Scheduled	Actual
Site establishment				
Excavations: MV Pole holes				
Excavations: MV Stay holes				
Excavations: LV pole holes				
Excavations: LV Stay holes				
MV Overhead MINK Conductor				
Transformers				
LV cable ABC: 70 mm ²				
Service connections				
MV poles planted				
LV poles planted				
MV stays planted				
LV stays planted				
Earthing				
Commissioning				

TRANSFORMER INSTALLATION AND COMMISSIONING RECORD SHEET

TOWNSHIP RETICULATION SCHEME:

DATE:

TESTERS NAME:

ADDRESS:

TEL NR:

TRANSFORMER NR:

MV VOLTAGE: kV.

LV ABC INSULATION RESISTANCE

R-W	MΩ	at	5 kV
W-B	MΩ	at	5 kV
B-R	MΩ	at	5 kV
R-N	MΩ	at	2,5 kV
W-N	MΩ	at	2,5 kV
V-N	MΩ	at	2,5 kV

Instrument used Instrument Nr

NO LOAD VOLTAGE LEVELS AT TERMINAL POINTS ON

FEEDER 1

R-N	Volts	R-W	Volts
W-N	Volts	W-B	Volts
B-N	Volts	B-R	Volts

FEEDER 2

R-N	Volts	R-W	Volts
W-N	Volts	W-B	Volts
B-N	Volts	B-R	Volts

FEEDER 3

R-N	Volts	R-W	Volts
W-N	Volts	W-B	Volts
B-N	Volts	B-R	Volts

VOLTAGE TESTS AT HOUSES

Is it within statutory limits: YES NO

FULL LOAD VOLTAGE LEVELS AT TERMINAL POINTS ON:

FEEDER 1

R-N	Volts	R-W	Volts
-----------	-------	-----------	-------

W-N Volts W-B Volts
 B-N Volts B-R Volts

FEEDER 2

R-N Volts R-W Volts
 W-N Volts W-B Volts
 B-N Volts B-R Volts

FEEDER 3

R-N Volts R-W Volts
 W-N Volts W-B Volts
 B-N Volts B-R Volts

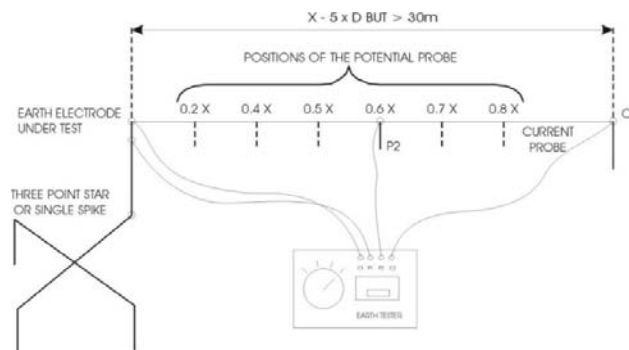


Figure 3: Connections for earth electrode resistance measurement - 61.8% method

Table 4: Earth electrode resistance - 61,8 % method

COMMENTS	REFERENCE	POSITION	ISTANCE (M)	RESISTANCE (M)
	R1	0,2X		
	R2	0,4X		
	R3	0,5X		
	R4	0,6X		
	R(T)	0,618X		
	R5	0,7X		
	R6	0,8X		

Table 5: Earth electrode resistance - 61,8 % method measurement results

$$R = 0,1187 R1 - 0,4667 R2 + 1,9816 R4 - 0,3961 R6 = \dots\dots\dots \text{ ohm}$$

$$R = 2,6108 R2 + 0,0508 R3 - 0,1626 R4 - 0,2774 R6 = \dots\dots\dots \text{ ohm}$$

$$R = 1,8871 R2 + 1,1148 R3 + 3,6837 R4 - 1,9114 R5 = \dots\dots\dots \text{ ohm}$$

$$R = 6,5225 R3 + 13,6816 R4 - 6,8803 R5 + 0,7210 R6 = \dots\dots\dots \text{ ohm}$$

C3.1.15. DISTRIBUTION TRANSFORMERS (PSE 19)

C3.1.15.1. GENERAL

This specification covers the manufacture of distribution transformers for general reticulation and distribution systems in normal environmental conditions for 50 Hz, three-phase, 22 kV (nominal) primary and three-phase four-wire 420 Volt (nominal) secondary systems.

The distribution transformers to be supplied shall comply with the latest Eskom Specification (240-45395762) "SPECIFIC REQUIREMENTS FOR DISTRIBUTION POLE AND GROUND-MOUNTED TRANSFORMERS UP TO 33KV AND 1MVA" and SANS 780.

C3.1.15.2. POLE MOUNTED TRANSFORMERS

The distribution transformers offered shall comply with the following specific requirements:

- a) Number required : Three x 315 kVA
- b) Dry type or oil immersed : Oil immersed
- c) Rated Frequency : 50 Hz
- d) Continuous maximum rating at rated voltage : 315 kVA
- e) Vector Group : Dyn11
- f) Nominal Impedance : 4.5 %
- g) Primary Voltage : 22 000 V
- h) Secondary Voltage : 420 V (3ph) / 242 V (1ph)
- i) Colour : Avocado green, code C12 of SANS 1091.

The cooling system of the transformer shall be an Oil-Neutral and Air-Neutral (ONAN) system for the maximum transformer rating.

C3.1.15.3. WINDINGS

The winding insulation shall be either enamel or paper insulation.

All windings shall be constructed with aluminium conductors only.

C3.1.15.4. INSULATION

The transformer insulation shall be as given in the table below:

Table 6: Standard insulation level

1	2	3	4
Maximum system voltage U_m [kV]	Rated primary voltage U_n [kV]	BIL [kV]	60 seconds power-frequency withstand voltage [kV]
<1	<1	30	8
7.2	6.6	75	22
12	11	95	28
24	22	150	50
36	33	200	70

		No-load secondary voltage [V]	BIL [kV]	60 seconds power-frequency withstand voltage [kV]
Single-phase		242	30	8
Dual-phase		± 242	30	8
Three-phase		420	30	8
SWER Isolation	Line terminal	33 000	200	70
	Neutral terminal	-	30	8

C3.1.15.5. TRANSFORMER OIL

The transformer main tank oil insulation level shall be 70 kV per 2.5 mm for virgin oil prior to filling and 60 kV per 2.5 mm at time of taking over.

C3.1.15.6. TAPPING SWITCH

The three-phase transformer shall have an off-circuit tapping switch mounted on the LV side of the transformer.

The tapping range shall be -5 %, -2.5 %, 0 %, +2.5 %, +5 %.

C3.1.15.7. BUSHINGS

The bushing shall comply with SANS 60137.

All bushings shall have a minimum creepage of 31 mm/kV.

The lightning arresters will be mounted on the transformers below the transformer MV bushings.

C3.1.15.8. LV CABLER TERMINATION ENCLOSURES

The following deviation from the Eskom specification is required:

- The Transformer LV bushings shall be fully enclosed within an air-filled steel enclosure welded to the transformer tank. The door on the LV cubicle shall be equipped with screw locking mechanism equal to Eskom & City Power specification as used on the miniature substations.
- The steel enclosure shall make provision for a LV Moulded Case Circuit Breaker and busbars to enable connection of the Aerial Bundle Conductor (ABC).
- The pole mounted transformer shall be equipped with overload protection and shunt trip facility in the LV cubicle. Thermistor to be set at tripping the breaker with shunt trip coil at oil temperature of 95 °C.
- The transformer manufacturer must specify the limit of overload capacity, and which shall be used to trip the transformer via the temperature sensor. All wiring shall be completed in the factory.
- A surge arrester in accordance with Eskom drawing D-DT-3088 shall be mounted on the earthing terminal in the LV cable termination enclosure and shall be connected to the neutral bushing terminal

C3.1.15.9. TESTING

The current transformer shall be tested as per the latest SANS 780 standard and test certificates provided.

C3.1.15.9.1. ROUTINE TESTS

The following routine tests shall be performed in accordance with IEC/SANS 60076-1 and SANS 780 on each transformer:

- Measurement of winding resistance.

- b) Measurement of voltage ratio and phase displacement.
- c) Measurement of short-circuit impedance and load loss.
- d) Measurement of no-load loss and current.
- e) Separate source voltage test.
- f) Induced overvoltage test.
- g) Measurement of paint thickness.
- h) Test for effectiveness of sealing.
- i) Measurement of insulation resistance test.

The routine test shall be carried out at the cost of the OEM and the right is reserved that the tests is to be witnessed by the Employer and Engineering representative and is subject to Clause C3.1.11.13:

C3.1.15.9.2. TYPE TESTS

The following type tests shall be performed on each design and in accordance with SANS 60076-1 and SANS 780:

- j) Temperature Rise Test.
- k) Impulse Type Test.
- l) Tank Stiffness Test.
- m) Natural ageing and pollution performance test
- n) Equivalent disturbing current test for SWER Transformers

The type certificates shall be submitted to the engineer prior to ordering the transformers.

The transformer test methodology and connection diagrams for testing shall be submitted together with the bid offer.

C3.1.16. USE OF OWN MANPOWER (PSE 100)

It is a requirement of the Contract that the work be executed in such a manner as to maximize the use of labour in order to provide the local community with employment opportunities (where applicable) in accordance with the approved Council Policy and Guidelines.

It should be noted that the local labours can be from any area within the Midvaal Local Municipal area, which is within a reasonable distance from the construction site.

The Contractor shall only use skeleton staff and skilled staff for implementation of the project. The contractor shall appoint local labourers for all unskilled tasks. Should it prove to be impossible to identify people from the community to perform the expected tasks identified by the Contractor, written approval shall be obtained from the Engineer, or the community, prior to utilising his own manpower to complete the project. The Contractor's own personnel will be responsible for all specialised work. The Contractor shall therefore use only skilled labour of his own workforce. All other unskilled labour required shall be local labour.

The identification of the approved CLO to be appointed by the Contractor under the Contract shall be resolved by the Contractor, the particular Ward Councillors in collaboration with the Local Community in the form of a Project Steering Committee. It will be required, therefore, that the successful Tenderer (i.e. the Contractor) enter into a contract for the employment of the above-mentioned CLO, the parties to which will be the Contractor, the Local Authority and the CLO.

In order to achieve the recruitment of local labour, the Local Communities would establish, together with the Local Authority, a database of unemployed persons, indicating their specialized training, previous experience and employment, etc. The successful Tenderer will be required to follow the approved Council Policy and Guidelines and to liaise with the Member of the Mayoral: Engineering Services (MMC) in recruiting his/her workforce and will be required to produce weekly records suitably detailed to enable the Engineer/Employer, or his/her authorized representative, and the Local Communities to ascertain that the abovementioned labour

requirements are achieved. The Contractor is required to provide informal skills training so that the required standard of workmanship is maintained. Any difficulty experienced by the Tenderer/Contractor in the procurement of the requirement percentages of local labour is to be referred immediately to the Engineer.

The contractor will also be required to report monthly on the amount of local labour in accordance with the EPWP program reporting formats which will be provided to the successful contractor.

C3.1.16.1. EXPECTED TASKS AND RESPONSIBILITIES

The different tasks and responsibilities are as follows:

C3.1.16.2. SERVICES REQUIRED

- a) 1 x CLO - Community Liaison Officer
- b) Unskilled labourers

The contractor shall provide for the necessary facilities for the workforce i.e. water, toilets, guard houses, stationary, PPE, identification etc.

C3.1.16.3. DUTIES, TASKS AND RESPONSIBILITIES

CLO

- a) Represent the local community in matters concerning the use of local labour on the works and to assist with and facilitate communication between the Contractor, the Engineer and the local communities.
- b) Ensure labourers obey Contractor's instructions.
- c) Terminate, retrench, expel and discipline workers
 - Not obeying Contractor's instructions
 - Refuse to work
 - Not reporting for work without excuse
 - Misbehave, steal, drink, intimidating etc. during working hours etc.
- d) Settlement of disputes.
- e) Obtain way leaves.
- f) Any other reasonable instructions required by the Contractor, Project Manager or Employer.

LOCAL LABOUR

- a) Perform and execute tasks such as:
 - Minor excavation work.
 - Excavation of cable trenches.
 - General unskilled labour.
- b) Any other reasonable instructions required by the Contractor, Project Manager or Employer.

CONTRACTOR

- a) Employ the CLO, security officers and local labour.
- b) The period of appointment of the CLO shall be as stated in the Contract for Temporary Employment as a Community Liaison officer referred to below. The date of commencement of temporary employment of the CLO shall be as agreed with the Engineer.
- c) Provide and supply all clothing, tools and materials to perform the tasks required.
- d) Manage the workforce with the assistance of the CLO to ensure that the programme to carry out the work is met.
- e) Manage all material. The Contractor will be responsible for the management, issuing and verification of all material.
- f) Conduct and convene meetings on a daily base, to dish out work and tasks and to record progress.

- g) To ensure all safety requirements are met.
- h) Pay and remunerate the workforce once a month by means of a cash cheque and record all payments with relevant signatures.
- i) The Contractor will register all local labourers for unemployment insurance.
- j) Enter into written agreement with CLO and workforce and appoint workforce in writing in accordance with the relevant Midvaal Local Municipality procedure.

The contract shall be between the Contractor and the CLO and the local labour, all costs involved shall be borne by the Contractor and the tender shall be deemed to include for this.

C3.1.16.4. CONDITIONS OF EMPLOYMENT

- a) Obey Contractors instructions.
- b) Sign time sheets and report for work from Monday to Friday.
- c) Work overtime if required by Contractor.
- d) Working hours is 45 hours per week from 07:00 to 16:30 with 30 minutes lunch break from 12:00 to 12:30.
- e) Payment will be effected according to attendance register, with no work no pay policy.
- f) Payment will be done by means of a cash cheque once a month on the last Friday of the month at 14:00.
- g) Unemployment insurance funds will be deducted.
- h) Tax will be deducted if applicable and when deducted, IRP5 certificates will be issued.
- i) Payment categories:
 - CLO Estimated R 10 000,00 per month or pro rata for days working
 - Labourers Estimated R 41,72 per hour

The above are estimated minimum amounts and shall be negotiated between the Contractor, Municipality relevant manpower. To prevent disputes arising any manpower shall not be paid more or paid less than the rates being used within the Municipal area.

- j) Overtime will be paid according to time plus a third.
- k) If the required progress is not met after actions taken by the CLO, the Contractor will have the right to strengthen his own workforce with the approval of the Project Manager.

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C3.2 – TECHNICAL SCHEDULES

C3.2 TECHNICAL SCHEDULES

C3.2. TECHNICAL SCHEDULES

The following list outlines the Technical Schedule for tendering which shall be populated by the contractor / OEM. Failure to complete any schedule may result in the bid submitted being disqualified.

At no stage during the delivery of the works may the contractor change supplier / manufacturer without the written consent from the Engineer.

C3.2.1. GSE01 – OVERHEAD RETICULATION (22 KV AND BELOW)

- Overhead Reticulation in accordance with NRS 092.

C3.2.2. GSE19 – DISTRIBUTION TRANSFORMERS

- 315 kVA 22 000/420 V Distribution Transformer in accordance with SANS 780.

C3.3 – GENERAL SPECIFICATIONS

C3.3 GENERAL SPECIFICATIONS

C3.3. GENERAL SPECIFICATIONS

C3.3.1. PREAMBLE

Note:

Failure to duly complete Technical Schedules in full will result in the disqualification of the tenderer's offer.

No change in supplier is permitted without a written application by the contractor and written consent by the Engineer. Should any change in supplier be noted at any stage during implementation of the project the Engineer will instruct the Contractor to revert back to suppliers as per the tender offer with any time and cost implications for the Contractors account.

It shall be noted that specifications are for the general use of project construction, certain sections or paragraphs may not be relevant to this particular contract in which case such irrelevant items are to be considered as not applicable. Any uncertainties shall be communicated to the Engineer. Where equivalent South African standards (SANS / NRS) exist, such standards are to be used in preference to foreign standards quoted.

The documents referenced contain provisions that constitutes requirements of this specification. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

I / We, the undersigned hereby acknowledge that copies of the above documents are included in the tender document and confirm that I / We fully understand them and the consequences of non-compliance.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

NAME:

SIGNATURE:

CAPACITY:

Specifications as listed below shall apply to this project:

C3.3 GENERAL SPECIFICATIONS

C3.3.2. LAW - NATIONAL AND INTERNATIONAL STANDARDS

All IEC, NRS, SANS, ASCE, ISO codes and National Law applicable to the disciplines listed below shall apply to this project:

- 1) Electrical Cable Works
- 2) Civil reinforced concrete works
- 3) Building Works
- 4) High Voltage Works

ACT	31	Fencing Act.
ACT	731989	Environmental Conservation act.
ACT	851993	Machinery and Occupational Safety Act 85 of 1993 with special reference to Section 1 (Act & Regulations), Section 2 (Administrative Regulations), Section 6 (Electrical Installation Regulations) and Section 16 (General Safety Regulations)
ACT	OHS 1993	Occupational Health and Safety Act 1993

Standards are obtainable on the SABS Web store www.store.sabs.co.za.

C3.3.3. ESKOM SPECIFICATIONS / STANDARDS

In order to achieve a countrywide standard, the Eskom Specifications for outdoor substations will be applicable to this project. It is the responsibility of the tenderer to ensure that he/she obtains these specifications from the Eskom website (www.scot.eskom.co.za).

240-45395762	:	Specific Requirements for distribution pole and ground-mounted transformers up to 33 kV and 1 MVA.
240-75883906	:	Medium Voltage Reticulation Section 0: General Information and Requirements for Overhead Lines Up To 33kv Standard.
240-75884040	:	Medium Voltage Reticulation Section 1 Light Conductors Particular Requirements for Overhead Lines up to 33 kV Standard.
240-56062768	:	Distribution Class Metal Oxide Surge Arresters without Spark Gaps Specification
240-68973356	:	Outdoor, Pole-Mounted, Distribution Single-Phase, Off-Load Disconnectors for MV Line Application with Removable Link for Nominal A.V. Voltages of 22 kV.
240-75257543	:	Standard Specification for 22kV and 33kV, Pole-Mounted, Three-Phase, Gang-Operated Disconnectors
240-75655444	:	Procedure for Installation of Line Surge Arresters up to 33kV
240-75881496	:	Procedure for Handling, Auditing and Stacking of New Wooden Poles Standard
240-130615754	:	Distribution Type – Part 2: Distribution Standard: Part 2: Earthing. Section 1: MV and LV Distribution System Earthing

C3.3.4. STANDARDS AND SPECIFICATIONS

The following National and International standards shall be adhered to and can be obtained through the SABS webstore.

C3.3.4.1. OVERHEAD RETICULATION

NRS 092	:	Electricity Distribution - Guideline for the Construction of Medium-Voltage Overhead Power Lines of up to and including 22 kV, using poles with Bare and Aerial Bundled Conductors.
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C3.3 GENERAL SPECIFICATIONS

- SANS 10280 : Overhead power lines for conditions prevailing in South Africa.
- SANS 10280-1 : Overhead power lines for conditions prevailing in South Africa Part 1: Safety.
- NRS33 : Electricity distribution - Guidelines for the application design, planning and construction of medium voltage overhead power lines up to and including 22 kV, using wooden pole structures and bare conductors.
- NRS 092 : Electricity distribution - Guideline for the construction of medium-voltage overhead power lines of up to and including 22 kV, using poles with bare and aerial bundled conductors.

C3.3.4.2. POLES

- SANS 754 : Eucalyptus poles, cross-arms and spacers for power distribution and communications systems
- SABS 753 : Pine poles, cross-arms and spaces for power distribution, telephone systems & street lights.
- NRS 073-1 : Electricity distribution - Wooden poles, cross arms and spacer blocks.

C3.3.4.3. LINE HARDWARE

- NRS 028 : Cable lugs and ferrules
- NRS 035 : Drop-out fuses
- NRS 018 : Fittings and connectors for LV overhead power lines using aerial bundled conductors, Part 1, 2, 3 & 5
- NRS 020 : Aerial bundled conductor: Cable ties
- SANS 61284 : Overhead lines - Requirements and tests for fittings.
- NRS 028 : Crimped cable lugs and ferrules for copper and aluminium conductors.

C3.3.4.4. STAYS

- NRS 022 : Stays and associated components

C3.3.4.5. CUT OUTS

- NRS 035-1 : Outdoor distribution cut-outs Part 1: Drop-out fuse-link assemblies or solid-link assemblies - Pole-mounted types - For nominal a.c. voltages up to and including 33 kV
- NRS035-2 : Outdoor distribution cut-outs Part 2: Expulsion fuse-links - For nominal a.c. voltages up to and including 33 kV.

C3.3.4.6. LV NETWORK

- SANS 1619 : Small power distribution units (ready-boards) for single phase 230 V service connections.
- NRS 032 : Service distribution box for pole mounting

C3.3.4.7. DISTRIBUTION TRANSFORMERS

- SANS 780 : Distribution transformer
- IEC 60076 : Power Transformers (all applicable parts)

C3.3 GENERAL SPECIFICATIONS

IEC 60137 : Bushings for AC voltages above 1000V

C3.3.4.8. CABLES

SANS 876 : Cable terminations and live conductors within air insulated enclosures (insulation co-ordination) for rated a.c. voltages of 7,2 and up to and including 36 kV.

SANS 61089 : Round wire concentric lay overhead electrical stranded conductors

IEC 60228 : Conductor of insulated cables.

SANS 10198-1 : The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 1: Definitions and statutory requirements.

SANS 10198-9 : The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 9: Jointing and termination of extruded solid dielectric-insulated cables up to 3,3 kV.

SANS 10198-13 : The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 13: Testing, commissioning and fault location.

SANS 10198-14 : The selection, handling and installation of electric power cables of rating not exceeding 33 kV Part 14: Installation of aerial bundled conductor (ABC) cables.

SANS 10142 : The wiring of premises

SANS 1418 : Aerial bundled conductor systems (All parts).

C3.3.4.9. CONDUCTOR

SANS 182-2 : Conductors for overhead electrical transmission lines Part 2: Stranded aluminium conductors.

SANS 182-3 : Conductors for overhead electrical transmission lines Part 3: Aluminium conductors, steel-reinforced.

SANS 182-5 : Conductors for overhead electrical transmission lines Part 5: Zinc-coated steel wires for conductors and stays.

C3.3.4.10. EARTHING AND LIGHTNING PROTECTION SYSTEM

SANS 725/
IEEE 80 : Guide for safety in AC Substation Grounding

IEEE 81 : Guide for measuring earth resistivity, ground impedance and earth surface potentials of a ground system

SANS 10199 : The design and installation of an earth electrode

IEC 62305 : Protection against lightning

SANS 10292 : Earthing of low-voltage (LV) distribution systems

SANS 10313 : Protection against lightning – Physical damage to structures and life hazards

NRS 060 : Code of Practice for clearances for electrical systems with rated voltages up to and including 145 kV, for the safety of persons

IEC 61024 : Protection of structures against lightning

C3.3 GENERAL SPECIFICATIONS

C3.3.4.11. SURGE ARRESTERS

- SANS 60099-1 : Surge arresters Part 1: Non-linear resistor type gapped surge arresters for a.c systems.
- SANS 60099-4 : Surge arresters Part 4: Metal-oxide surge arresters without gaps for a.c. systems.
- SANS 60099-5 : Surge arresters Part 5: Selection and application recommendations.
- SANS 60099-6 : Surge arresters Part 6: Surge arresters containing both series and parallel gapped structures - Rated 52 kV and less.
- SANS 60099-7 : Surge arresters Part 7: Glossary of terms and definitions from IEC publications 60099-1, 60099-4, 60099-6, 61643-1, 61643-12, 61643-21, 61643-311, 61643-321, 61643-331 and 61643-341.

C3.3.4.12. INSULATION

- SANS 60305 : Insulators for overhead lines with a nominal voltage above 1 000 V - Ceramic or glass insulator units for a.c. systems - Characteristics of insulator units of the cap and pin type.
- SANS 60383-1 : Insulators for overhead lines with a nominal voltage above 1 000 V Part 1: Ceramic or glass insulator units for a.c. systems - Definitions, test methods and acceptance criteria.
- SANS 60383-2 : Insulators for overhead lines with a nominal voltage above 1 000 V Part 2: Insulator strings and insulator sets for a.c. systems - Definitions, test methods and acceptance criteria.
- SANS 61109 : Insulators for overhead lines - Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1 000 V - Definitions, test methods and acceptance criteria.
- SANS 61211 : Insulators of ceramic material or glass for overhead lines with a nominal voltage greater than 1 000 V – Impulse puncture testing in air.
- SANS 61467 : Insulators for overhead lines - Insulator strings and sets for lines with a nominal voltage greater than 1 000 V - AC power arc tests.
- SANS 1019 : Standard voltages, currents and insulation levels for electricity supply
- IEC 60273 : Characteristics of indoor and outdoor post insulators for systems with nominal voltages greater than 1000 V
- IEC 60168 : Tests on indoor and outdoor post insulators of ceramic material or glass for systems greater than 1000 V
- IEC 60815 : Selection and dimensioning of high-voltage insulators intended for use in polluted conditions
- IEC 60168 : Tests on indoor and outdoor post insulators of ceramic material or glass for systems with nominal voltages greater than 1 000 V
- IEC 60455 : Resin based reactive compounds used for electrical insulation
- IEC 60071-1 : Insulation co-ordination

C3.3.4.13. ELECTROMAGNETIC COMPATIBILITY

- IEC 61000-6-2 : Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments
- IEC 61000-6-4 : Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments

C3.3 GENERAL SPECIFICATIONS

IEC 61000-6-5 : Electromagnetic compatibility (EMC) – Part 6-5: Generic standards – Immunity for power station and substation

C3.3.4.14. METERING EQUIPMENT

IEC 62052 /
IEC 62053 : Electricity metering equipment (a.c.) [relevant parts]

IEC 62056-21 : (EMC) - Part 4-30: Testing and measurement techniques

C3.3.4.15. EMALAHLENI LOCAL MUNICIPALITY SPECIFICATION

C3.3.4.15.1. INSTALLATION SCOPE OF WORK

ELECTRICAL CONTRACTOR shall peg the line in accordance with the reticulation drawings. Any deviations shall be communicated to the Municipality's Engineer before commencement.

ELECTRICAL CONTRACTOR shall excavate, plant dressed 11m wooden poles, stays and all associated accessories for 22 KV overhead line construction.

ELECTRICAL CONTRACTOR shall construct 315 kVA H-pole transformer platforms for the installation of transformers, complete with D'fuse cut-out and, insulators, main enclosure panel and necessary accessories and provision for Low Voltage connections. The quantity and location of the transformers shall be as per the reticulation drawings.

ELECTRICAL CONTRACTOR shall supply and install new 315 kVA, 22/0.420 kV pole mounted transformers complete with all accessories. The location of the transformer shall be as per the project drawings. The ELECTRICAL CONTRACTOR shall test and commission the transformers.

ELECTRICAL CONTRACTOR shall string with Mink Aluminium Conductor Steel Reinforced (ACSR).

ELECTRICAL CONTRACTOR shall ensure that the tensioning of the conductor is in such a way that overhead cable is at least seven (7) meters above ground at the lowest point.

ELECTRICAL CONTRACTOR shall and install 20 A cut out fuses at each transformer.

ELECTRICAL CONTRACTOR shall supply and install a LV neutral surge arrestor per each transformer.

ELECTRICAL CONTRACTOR shall supply and install main enclosure panel directly under transformer and shall test and commission the main enclosure panel and ensure quality.

ELECTRICAL CONTRACTOR shall supply and install LV and MV earthing system at the transformer.

ELECTRICAL CONTRACTOR shall test and commission the earthing system. If the earthing system does not achieve a resistance less than 20 ohms, ELECTRICAL CONTRACTOR shall notify his Engineer and Emalahleni Municipality representative for further action.

ELECTRICAL CONTRACTOR shall supply and install anti-climb devices at all equipment locations (transformer H-pole and MV cable termination).

ELECTRICAL CONTRACTOR shall supply and install pole danger warning signs at equipment locations (transformer H-pole and MV cable termination).

C3.3 GENERAL SPECIFICATIONS

ELECTRICAL CONTRACTOR shall supply and install pole numbers, transformer numbers and main enclosure number. The schedule of pole numbering will be submitted to the ELECTRICAL CONTRACTOR before pre-commissioning. All labelling shall be permanent and legible.

ELECTRICAL CONTRACTOR shall supply and install two (2) 70mm² XLPE covered ABC single cores from the transformer LV bushing connector to the main enclosure panel main circuit breaker. ELECTRICAL CONTRACTOR shall test and commission these jumper cables.

LV Reticulation shall be street front as shown on the reticulation drawings. ELECTRICAL CONTRACTOR shall excavate, supply and plant dressed 9m wooden poles, stays and all associated accessories for Low Voltage Aerial Bundled Conductor (ABC) over-head line construction. The poles shall be installed in between house stands and away from entrances to eliminate obstruction to house entrances.

ELECTRICAL CONTRACTOR shall supply and install 3 core 70mm² + bare neutral ABC feeder cable from transformers to the poles for house connections. ELECTRICAL CONTRACTOR shall terminate the ABC feeders to new feeder breakers in the new main enclosure panels on transformers. ELECTRICAL CONTRACTOR shall test and commission the ABC.

ELECTRICAL CONTRACTOR shall supply and install LV distribution enclosure as per technical specification and as approved by Engineer before purchase. ELECTRICAL CONTRACTOR shall test and commission the distribution enclosure.

ELECTRICAL CONTRACTOR shall supply and install LV distribution service cables for each of the 341 stands.

ELECTRICAL CONTRACTOR shall balance the phases by alternating the phase per every node. ELECTRICAL CONTRACTOR shall test and commission the distribution enclosure.

ELECTRICAL CONTRACTOR shall supply and install one (1) fibre glass or equivalent fire proof ready board per household with COC as per technical specification. The plastic type ready board shall not be installed for this project. ELECTRICAL CONTRACTOR shall test and commission the ready boards.

ELECTRICAL CONTRACTOR shall activate the prepaid metering system after successful energization of the complete MV and LV system. Conlog BEC44 (x) split type meters shall be used for this project.

ELECTRICAL CONTRACTOR shall arrange a shutdown with the Emalahleni Local Municipality to connect onto the existing 22 kV MV reticulation. No live line work shall be done under this project. ELECTRICAL CONTRACTOR shall not conduct any work within a fifteen (5) meter radius of the existing live overhead line without a shutdown. Two weeks advance notice shall be given to the Municipality unless otherwise authorized.

C3.3.4.15.2. MV SYSTEM INSTALLATION SPECIFICATION

The conductor configuration shall be staggered vertical with 600mm spacing between the phases.

All MV and LV poles shall be wooden and shall be 11m long and shall have minimum 180mm diameter top. The planting depth for the poles shall be 1.8m. Whenever the contractor encounters soil conditions which lower bearing capacity, cement shall be used in a mix of 1:0 cement to soil ratio to stabilize the poles. All the backfill shall be rammed and compacted at 30mm layer. All stayed poles supporting transformers shall have a base plate installed.

Pole mounted transformer shall be mounted on 2 pole, 2 equipment platform channel (H-pole). The platform shall be installed at minimum height of 6 000mm above the ground top allow sufficient space for installation of main enclosure panel 200mm below transformer platform brackets. The danger warning signs, anti-climb device, pole numbers and any labeling shall be below the main enclosure panel.

C3.3 GENERAL SPECIFICATIONS

MV surge arrestors, neutral surge arrestor, transformer neutral, transformer tank shall be bounded and earthed. The down conductor shall be saddled to one the poles on the H-pole and separate from LV system down conductor. LV equipment (main enclosure and ABC neutral) shall be bonded separately and provided with a separate down conductor and earth electrode. The MV and LV electrode shall be kept at least 5m apart. The footing resistance shall be less than 20 ohms.

Fuse cut-out shall be installed on the primary side of all transformers. The fuses at the primary side 22/0.420kV, 315 kVA transformer shall be 20 A.

MV equipment anti-climb barbed wire shall be installed.

Mid span joints on the ACSR overhead conductor are not encouraged. In case of a mid-span joint is necessary because the full length of the ACSR conductor has run out, the mid span joint shall be in an approved procedure.

C3.3.4.15.3. LV SYSTEM INSTALLATION SPECIFICATION

Three phase bare neutral ABC suspension assembly shall be used.

Three phase intermediate/suspension assembly with service connection with a distribution enclosure: 4 or 6 way distribution enclosure shall be used. The distribution enclosure shall be in accordance with Emalahleni Municipality distribution enclosure specification in the material specification below.

The minimum clearance of the air-dac from the ground shall be 2.0m.

A PVC grommet is required when entering a dwelling with metallic wall which could cut the service cable.

The main enclosure panel shall be installed on the same H-Pole as the transformer, 200mm below the transformer platform bracket and in between the poles. The panel shall be flush mounted on two brackets.

C3.3.4.15.4. MATERIAL SPECIFICATION

MV overhead conductor shall be Mink, Aluminium Conductor Steel Reinforced (ACSR).

22 kV system MV surge arrestors shall be 10kA gapless metal oxide.

Pole mounted transformer shall be Dyn11, 22 000/420 V, hermetically sealed, ONAN cooling, 20mm/kV minimum creep-age. Transformers shall have off-circuit tap changing (-5%,-2.5%,0%,+2.5%,+5%), stainless steel earth terminal and MCOV surge arrestors and be in accordance with SANS 780.

All poles LV poles shall be 9m and MV shall be 11m length with minimum 180mm top diameter.

All strut poles shall be 12m.

LV stay wire shall be 3/3.35.

MV stay wire shall be 7/4.00.

Aerial bundled conductor (ABC) push-on end caps shall be used.

Insulation piercing connectors shall be used on ABC conductors.

Aluminum to aluminum parallel groove (PG) clamp shall be used on 22 kV ACSR conductor.

C3.3 GENERAL SPECIFICATIONS

Main enclosure shall be in accordance with the Emalahleni Municipality specification. The general arrangement (GA) drawing shall be approved by the Municipality before manufacture.

Distribution enclosure shall either be 4 or 6 way in accordance with Emalahleni Municipality specification. The GA drawings shall be approved and made part of the specification documents.

Ready board shall be made of fibre glass or equivalent fire resistant and shall be provided with a COC and the earth leakage unit isolator shall be 40 Amps.

Earth rod shall be 16mm diameter, 1 500mm long copper clad steel.

Service conductor shall be 10mm² separate earth and neutral concentric cable with communication pair. The air-dac vendor specification including samples shall be supplied by the ELECTRICAL CONTRACTOR for acceptance before construction.

C3.3.4.15.5. SPECIFICATION FOR LOW VOLTAGE HIGH SECURITY DISTRIBUTION AND METERING ENCLOSURES

Tamper distribution enclosures shall be designed to host 1 x 500A, 10kA, 3 pole MCCB and 5 x 200A, 10kA, 3 pole, MCCB for distribution of power to LV ABC feeders.

Pole top enclosures shall be 4 way and 6 way as specified on the drawings and shall be equipped with 20A single pole breakers.

Electronic interface controller must be able to open the door via Blue tooth technology from Smart phone and have the capability of being opened remotely via WI fi if GSM platform activated on the controller

Both doors to be flush mounted having concealed hinges and fitted with 2 x "Slam Lock" Electronically Activated Locking Arrangements using 800kn actuators; 1 x Main Electronic Interface controller; 1 x Electronic Back-up / Override System; 2 x Door Sensors; 1 x Vibration Sensor as specified

Enclosures shall be pre-wired for a specific required meter.

Enclosures shall be fitted with the necessary electronics and can either be operated by an electronic key or remotely

Enclosures shall be divided in the inside into two compartments by means of a back plate to be used to fit the meters, circuit breakers, isolator and bus bars as prescribe. The compartments must only be accessible from the outside (2 doors). The one side of the compartment will host the meters, service connection cables and circuit breakers which will be referred to as the metering side. The other side will host the supply cable, bus bars and main isolator, which will be referred to as the bus bar side.

The colour of the enclosure shall be to SANS 1091, the current colours are Avocado, Light-grey and Electric Orange and will be specified when ordering.

Reinforced doors must be mounted and recessed inward by no less than 3mm.

There shall be no external hinges or holes, hinges shall be robust and vandal proof.

Doors shall be fitted with an internal tamper proof locking arrangement system.

The tamper proof locking arrangement must be designed in order to allow remote opening and closing from a control room as well as on site by an operator. Scope of

C3.3 GENERAL SPECIFICATIONS

Supply to also includes on site commissioning of electronics and linking units to existing software platform for monitoring

The enclosure shall be weatherproof and safe to operate in any weather condition. The roof of the enclosure shall be sloping.

Provision should be made on the enclosure in order to lift it with a crane truck.

Each door of enclosure shall be fitted with an electrical danger notice made from chromadek with a minimum measurement of 300mm (W) x 300mm (L). Labelling shall be done with UV and Weather resistance material. Danger notices shall be secured to the doors by means that it can't be removed without the assistance of tools, no stickers.

Danger notices shall be weatherproof and UV resistant and shall be as prescribed by SANS 0142 and the "Occupational, Health and Safety Act".

The enclosure shall be robust enough to prevent tampering.

Bottom entrance prevention mild steel plates shall be inserted between the enclosure and plinth. The purpose of the plates are to prevent access to circuit breakers, meters and any other installed equipment should somebody dig a hole underneath the plinth to obtain entrance to the equipment. The plates should at least be 3mm thick.

Both LV doors should be marked in the inside as well; the marking should be permanent and include the stand, street number of the installation.

I / We, the undersigned hereby acknowledge that copies of the above documents are included in the tender document and confirm that I / We fully understand them and the consequences of non-compliance.

SIGNED AT ON BEHALF OF THE FIRM

ON THIS DAY OF 20.....

NAME:

SIGNATURE:

CAPACITY:

C4 – SITE INFORMATION

C4 SITE INFORMATION

C4. SITE INFORMATION

The site falls within the jurisdiction of Emalahleni Local Municipality.

The Contractor shall cater for his own water, electricity and sanitation requirements.

The onus will be on the Contractor to acquaint himself with the site conditions before the tender closing date.

It is recorded that the contractor has, before signature of this Contract, carried out a site inspection to acquaint itself with the site conditions, access and all other matters relating to the site.

The contractor acknowledges that it has allowed for all conditions on site and agrees that extra claims arising from difficult site conditions in respect of transport, handling, loading, off-loading, labour, housing and any other matter relating to the site will not be entertained.



Figure 4 : Project Site Locality Map

Table 7: Site information

Hlalanikahle area	
Item	Description
Co-ordinates (Lat.) S/S cent	LAT: 25 50' 14.13"S
Co-ordinates (Long.) S/S cent	LONG: 29° 07' 18.48"E
Land Ownership (S/S site)	Emalahleni Local Municipality
Site Climate Conditions:	
Item	Description
Ambient Temp Max. °C	35 °C
Ambient Temp Min. °C	-10°C
Lightning Density	7.5 flashes to ground/km ² /year
Rain Fall	900mm
Thunder days/year (mean)	50
Snow days/year (mean)	0
Max. Wind m/sec	25 m/s

SIGNATURE OF TENDERER :

DATE :



EMALAHLENI LOCAL MUNICIPALITY

P O Box 3
EMALALHLENI
1035

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE

ANNEXURES AND DRAWINGS

LIST OF ANNEXURES

ANNEXURE 1: EMPLOYER HEALTH & SAFETY SPECIFICATION

ANNEXURE 2: EMPLOYER ENVIRONMENTAL MANAGEMENT PLAN

ANNEXURE 3: EPWP REPORTING

ANNEXURE 4: DRAWINGS

**ANNEXURE 1:
HEALTH AND SAFETY SPECIFICATION**

HEALTH AND SAFETY SPECIFICATIONS

1. OH&S MANAGEMENT

Structure and Organization of OH&S Responsibilities

1.1.1. Overall Supervision and Responsibility for OH&S

The Client is to ensure that the Principal Contractor, appointed in terms of Construction Regulation 4(1) (c), implements and maintains the agreed and approved OH&S Plan.

The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act is to ensure that the Employer (as defined in the Act) complies with the Act. Annexure 2 - "Legal Compliance Audit" may be used for this purpose.

Any OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her respective appointment forms.

The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 6.

Further (Specific) Supervision Responsibilities for OH&S

Appointments required by the Act and Regulations:

- OH&S Representatives (Sections 17/18 of the Act)
- OH&S Committees (Sections 19/20 of the Act)
- Risk Assessor (Construction Regulation. 7(1))
- Accident/Incident Investigations Co-coordinator (General Administrative Regulation 9 (2))
- Form/Support work Supervisor (Construction Regulation 10(a))
- Batch Plant Supervisor (Construction Regulation 18(1))
- Stacking & Storage Supervisor (Construction Regulation 26(a))
- Fire Equipment Inspector (Construction Regulation 27(h))
- Electrical Installations, Machinery & Appliances Inspector (Construction Regulation 22)
- Excavations Supervisor (Construction Regulation 11(1))
- Demolition Supervisor (Construction Regulation 12(1))
- OH & S Officer (where necessary) (Construction Regulation 6(6))
- Person Responsible for Machinery (General Machinery Regulation 2)
- Emergency, Security and Fire Co-coordinator (Construction Regulation 27(h) & Environmental Regulation 9)
- Fire Equipment Inspector (Construction Regulation 27(h) Environmental Regulation 9)
- First Aider (General Safety Regulation 3(2))
- Hazardous Chemical Substances Supervisor (HCS Regulations)
- Ladders Inspector (General Safety Regulation 13A)
- Lifting Equipment Inspector (Construction Regulation 20)
- Operators & Drivers of Construction Plant & Vehicles (Construction Regulation 21 (i))
- Structures Supervisor (Construction Regulation 9)
- Users Operators of Construction Equipment (Construction Regulation 21(i))
- Welding Supervisor (General Safety Regulation 9)
- Communication and Liaison

OH&S liaison between the Client, the Principal Contractor, the other Contractors, the Consulting Engineer and other concerned parties will be through the OH&S Committee as in 3.10.

In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S Committee and their elected Trade Union Representatives, if any.

The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Consulting Engineer,

instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.

1.3. OH & S File

The Principal Contractor must, in terms of Construction Regulation 5 (7), keep a health and safety file on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done.

The following documents must be kept in the OH & S file:

- 1) Notification of Construction Work (Construction Regulation 3.)
- 2) Copy of OH&S Act (updated) (General Administrative Regulation 4.)
- 3) Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))
- 4) Copy of health and safety plan (construction regulation 5 (1))
- 5) OH&S Programme agreed with Client including the underpinning Risk Assessment and Method Statements (Construction regulation 5 (1))
- 6) Designs/drawings (Construction Regulation 5 (8))
- 7) A list of Contractors (Subcontractors) including copies of the agreements between the parties and the type of work being done by each contractor (Construction Regulation 9)
- 8) Appointment / Designation forms as per 3.1.1. and 3.1.2. above.

Registers as follows:

- Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
- OH & S Representatives Inspection Register
- Form/Support work Inspection
- Excavations Inspection
- Lifting Equipment
- Demolition Inspections
- Designer's Inspection of Structures Record
- Batch Plant Inspections
- Arc & Gas Welding & Flame Cutting Equipment Inspections
- Construction Vehicles & Mobile Plant Inspections
- Electrical Installation and Machinery Inspections
- Fire Equipment Inspection & Maintenance
- First Aid
- Hazardous Chemical Substances
- Lifting Tackle and Equipment Inspections
- Inspection of Cranes
- Inspection of Ladders
- Inspection of Vessels under Pressure
- Machinery Inspections
- Drivers/Operators of Mobile Plant/Construction Vehicles Daily Inspections

The Principal Contractor will be required to submit the abovementioned registers monthly to the chairperson of the OH&S Committee for endorsement.

The Health & Safety File must be handed over to the Client on completion of the contract. It must contain all the documentation handed to the Principal Contractor by any subcontractors together with a record of all drawings, designs, materials used and other similar information concerning the completed project.

1.4. OH & S Goals and Objectives and Arrangements for Monitoring and Review of OH&S Performance

The Principal Contractor is required to maintain a Compensation Incidence Frequency Rate (CIFR) of at least 8 (Refer Annexure 3 - "Measuring Injury Experience") and to report on this to the Client on a monthly basis.

Identification of Hazards and Development of Risk Assessments, Standard Working Procedures (SWP) and Method Statements

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project (Refer to Section 4. below "Project/Site Specific Requirements")

Arrangements for Monitoring and Review

Monthly Audit by Client

The Client will be conducting a Monthly Audit to comply with Construction Regulation 4 (1) (d) to ensure that the Principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

Other Audits and Inspections by Client

The Client reserves the right to conduct other ad hoc audits and inspections as deemed necessary.

A representative of the Principal Contractor must accompany the Client on all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

1.6.3 Reports

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 4: "SHE Risk Management Report"

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb

is injured or becomes ill to such a degree that he/she is likely either to die, or to suffer a permanent physical defect, or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

or where:

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control

To the Provincial Director of the Department of Labour within seven days. (Section 24 of the General Administrative Regulation 8.). The Principal Contractor is required to provide the Client with copies of all statutory reports required in terms of the Act.

The Principal Contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports including the reports contemplated in 3.9. below.

1.6.4 Review

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each two weekly site inspection/meeting as the construction work develops and progresses and each time that changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractors and all other concerned parties with copies of any changes, alterations or amendments.

Site Rules and Other Restrictions

Site OH&S Rules

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

1.7.2. Security and Emergency Arrangements

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period.

Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of security rules and procedures and maintain these throughout the construction period.

The Principal Contractor must appoint a competent Emergency Controller who must develop emergency contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing programme for the plans e.g. January: trench collapse, February: flooding etc. and practiced/tested with all persons on site at the time, participating.

1.8 Training

The contents and syllabi of all training required by the Act and Regulations must be included in the Principal Contractor's OH&S Plan.

General Induction Training

All employees of the Principal and other Contractors to be in possession of proof of General Induction Training

Site Specific Induction Training

All employees of the Principal and other Contractors to be in possession of Site Specific OH&S Induction Training.

Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training.

OH&S TRAINING REQUIREMENTS: (AS REQUIRED BY THE CONSTRUCTION REGULATIONS AND AS INDICATED BY THE OH&S SPECIFICATION AND THE RISK ASSESSMENT/S):

- General Induction (Section 8 of the Act)
- Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- Site/Project Manager
- Construction Supervisor
- OH&S Representatives (Section 18 (3) of the Act)
- Training of the Appointees indicated in 3.1.1. & 3.1.2. above
- Operation of Cranes (Driven Machinery Regulations 18 (11))
- Operators and Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
- Basic First Aid (General Safety Regulations 3)
- Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- Emergency, Security and Fire Co-coordinator

1.9. Accident and Incident Investigation

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she had to be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9).

The results of the investigation to be entered into the Accident/Incident Register. (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

OH & S Representatives and Committees

Designation of OH&S Representatives

Where the Principal Contractor employs more than 20 persons (including the employees of other contractors (sub-contractors) he has to appoint one OH&S Representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the appointment or election and subsequent designation of the OH&S Representative is executed in consultation with Employee Representatives or Employees. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

OH & S Representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

Duties and Functions of the OH&S Representatives

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor.

OH & S representatives must be included in accident/incident investigations.

OH & S representatives must attend all OH&S committee meetings.

1.10.3. Appointment of OH&S Committee

The Principal Contractor must establish an OH & S Committee consisting of all the designated OH&S Representatives together with a number of management representatives (this number is not to exceed the number of OH&S representatives on the committee) and a representative of the Client who shall act as the chairperson without a vote. The members of the OH&S committee must be appointed in writing.

THE OH&S COMMITTEE MUST MEET MINIMUM MONTHLY AND CONSIDER, AT LEAST, THE FOLLOWING AGENDA:

- 1) Opening and welcome
- 2) Present/Apologies/Absent
- 3) Minutes of previous meeting
- 4) Matters arising from the previous minutes
- 5) OH&S Representatives Reports
- 6) Incident Reports & Investigations
- 7) Incident /Injury statistics
- 8) Other matters
- 9) Endorsement of Registers and the statutory documents by a representative of the Principal Contractor
- 10) Close/Next Meeting

PROJECT / SITE SPECIFIC REQUIREMENTS

The following is a list of specific activities and considerations that have been identified for the project and the construction site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) have to be developed by the Principal Contractor:

Clearing & Grubbing of the Area/Site

SITE ESTABLISHMENT INCLUDING:

- Office/s
- Secure/safe storage for materials, plant & equipment
- Ablutions
- Sheltered eating area
- Maintenance workshop
- Vehicle access to the site
- Dealing with existing structures (NB: the existing pipeline is also a structure.)
- Location of existing services
- Installation and maintenance of temporary construction electrical supply, lighting and equipment
- Adjacent land uses/surrounding property exposures
- Boundary and access control/Public Liability Exposures (NB: The Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)

HEALTH RISKS ARISING FROM NEIGHBOURING AS WELL AS OWN ACTIVITIES AND FROM THE ENVIRONMENT E.G. THREATS BY DOGS, BEES, SNAKES, LIGHTNING ETC.

- Exposure to noise
- Exposure to vibration
- Protection against dehydration and heat exhaustion
- Protection from wet & cold conditions
- Dealing with HIV/Aids and other diseases
- Use of Portable Electrical Equipment including
- Angle grinder
- Electrical drilling machine
- Skill saw
- Excavations including
- Ground/soil conditions
- Trenching
- Shoring
- Drainage of trench
- Welding including
- Arc Welding
- Gas welding
- Flame cutting
- Use of LP gas torches and appliances
- Loading & offloading of trucks
- Aggregate/sand and other materials delivery
- Manual and mechanical handling
- Lifting and lowering operations
- Driving & operation of construction vehicles and mobile plant including
- Trenching machine
- Excavator
- Bomag roller
- Plate compactor
- Front end loader
- Mobile cranes and the ancillary lifting tackle
- Parking of vehicles & mobile plant
- Towing of vehicles & mobile plant
- Use and storage of flammable liquids and other hazardous substances

- Layering and bedding of trench floor
- Installation of pipes in trench
- Pressure testing of pipeline
- Installing heat shrink joint sleeves
- Backfilling of trench
- Protection against flooding
- Gabion work
- Use of explosives
- Protection from overhead power lines
- As discovered by the Principal Contractor's hazard identification exercise
- As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site
- As discovered from any accident/incident investigation.

Annexure 1: Safety Agreement

Annexure 2: Construction Occupational Health – Safety – Environment Audit System

Annexure 3: Guidelines for the development of a Health and Safety Plan.

Annexure 4: Guide to Risk Assessment

ANNEXURE 1

EMALAHLENI LOCAL MUNICIPALITY TENDER NO: ELM 14/2025

THE ELECTRIFICATION OF 341 UNITS IN HLALANIKAHLE – SAFETY AGREEMENT

MEMORANDUM OF AGREEMENT CONCLUDED BY AND BETWEEN: EMALAHLENI LOCAL MUNICIPALITY

(hereinafter referred to as the Client)

herein represented by _____

in his capacity as _____

of the Client, he being duly authorized thereto

and

(hereinafter referred to as the Mandatory)

herein represented by _____

in his capacity as _____

of the Mandatory, he being duly authorized thereto

WHEREAS:

The Client and the mandatory entered into a written, alternatively oral agreement on the.....day of

.....20 in terms of which the Mandatory undertook to carry out the

following work for the client, viz. (give a short description of the type of contract work to be done as well as the address where work will be done)

*(The said contract work is hereinafter referred to as the **Work**)*

The Occupational Health and Safety Act, Act 85 of 1993 as amended (hereinafter referred to as **the Act**) contains amongst others certain provisions with regard to the health and safety of people at work and in connection with the usage of plant and machinery, as well as the protection of other persons than persons at work against hazards to health and safety that originates from or in connection with the activities of persons at work.

Section 37(2) of the Act makes provision for the exclusion by the parties, by way of a written agreement, of supposition and accompanying liability of the Client as stipulated in section 37(1) of the Act.

The parties have reached consensus with regard to the terms and conditions to which they agree in terms of the provisions of section 37(2) of the Act.

NOW THEREFOR THE PARTIES AGREE AS FOLLOWS

1. WRITTEN AGREEMENT

The parties herewith agree in terms of section 37(2) of the Act on the arrangements and procedures that must be followed to ensure compliance with the provisions of the Act by the Mandatory.

2. ACKNOWLEDGEMENT BY THE MANDATORY

The mandatory acknowledge herewith that he is fully acquainted with the contents of the Act, as well as with all regulations and SABS codes of practice that have been made in terms of section 43 of the Act.

3. UNDERTAKING BY MANDATORY

- (a) The Mandatory hereby undertakes and binds himself to the Client to ensure prompt and strict compliance with the provisions of the Act and the said regulations as well as with the provisions included in this Safety Agreement at all times during the execution of the Works
- (b) It is hereby recorded that the provisions of this Safety Agreement as set out hereinafter are in no way intended to restrict the duties of the Mandatory, nor to exempt the Mandatory from his obligation in accordance with the Act and the said regulations

4. PERSONAL PROTECTIVE EQUIPMENT

- (a) It is compulsory to wear equipment for eye protection when working in an eye protection zone or where the Work requires eye protection.
- (b) It is compulsory to wear safety helmets when working in a safety helmet zone or where the Work requires safety helmets.
- (c) It is compulsory to wear hearing protection when working in a noise zone or where the Work requires hearing protection.
- (d) The wearing of other protective clothing and equipment as prescribed by the Occupational Health and Safety Officer of the Client is compulsory.
- (e) The Mandatory shall ensure that the statutory requirements are complied with at all times.

5. FENCING AND GENERAL MACHINERY PROTECTION

No shield or fencing may be removed from or be moved at any machinery or installation without written permission.

6. SCAFFOLDING, LADDERS, TOOLS, ET CETERA

The Mandatory without the written permission of the Client may use no equipment or tools that belong to the Client.

Except where agreed beforehand the Mandatory shall provide enough tools and equipment to enable him to complete the Works and the Mandatory shall provide all storerooms, offices and eating halls that he may need. The Mandatory will be responsible for all his material on site.

In special case where the Client may lend equipment, tools or materials to the Mandatory, the Mandatory will use such equipment, tools and/or materials at his own risk and the Mandatory herewith indemnifies the Client against any liability of whichever nature or from any cause whatsoever, whether direct or indirect, that may arise from such usage.

7. SERVICES AND WORKING METHODS

The written permission of the Chief Executive/Town Clerk of the Client shall be obtained where any work which must be undertaken by the Mandatory is connected with a working process or machinery or any other service in connection therewith, or may possibly affect it, before he commences with such work.

Approval shall be obtained from the City Electrical Engineer of the Client before any equipment is connected to the electrical supply of the Client. All equipment shall be isolated before any equipment is connected to the electrical supply of the Client.

It shall be isolated and be provided with earth leakage protection. Electrical machinery, portable electrical tools and portable lights must comply with the requirements of the applicable regulations.

Work permits must be issued in terms of the Occupational Health and Safety Act and Regulations when the nature of the work requires it. Permits must be issued by the relevant departmental head where necessary.

8. EXCAVATIONS

Written permission for excavations shall be obtained from the City Engineer of the Client and the Mandatory shall make sure of the existence and position of electrical cables, discharge pipes, gas lines, water conduits, et cetera before he commences with any excavation work.

All excavations and obstructions and/or any openings in platforms or floors shall be enclosed in a safe way and warning notices shall be erected to ensure absolute safety. An adequate number of red or orange caution lights shall be provided when it is dark or should bad light prevail.

The area surrounding excavations shall be kept in a safe, orderly and tidy condition. No walkways or workplaces.

Nobody may enter into any restricted area in which hazardous fumes or a shortage of oxygen exists without a permit giving permission to do so, issued by the head of the relevant department of the Client and until it has been certified safe for entrance by the Occupational Health and Safety Officer and the Health Inspector of the Client.

9. RESTRICTION TO WORKPLACE

Employees of the Mandatory shall be restricted to their workplaces except when they have to leave their area for work purposes or when they visit toilets.

10. SUBCONTRACTORS

The Mandatory shall ensure that all subcontractors receive a copy of this safety agreement and must ensure they comply with it.

11. OCCUPATIONAL HEALTH AND SAFETY OFFICER AND THE REPORTING OF ALL ACCIDENTS

The Occupational Health and Safety Officer of the Client is available for consultation and he will make periodical visits to the workplace of the Mandatory. Any hazardous occurrence or incident to the employees of the Mandatory that results in absence from work for a period longer than three days shall be reported in writing to the Occupational Health and Safety Officer of the Client within forty eight hours as well as to the Department of Labour as specified by the Act. Every user, employer, occupier, builder or excavator must, under this Act, keep record of all accidents that occur.

In the case of an accident that results in loss of life, nobody may disturb the scene of the accident or any articles involved in the accident prior to the arrival of the Occupational Health and Safety Officer and the Inspector, unless it is to prevent another accident from happening or the prevention of loss of life or to remove corpses.

The Occupational Health and Safety Officer will issue contravention notices to the Mandatory or a subcontractor when there is a non-compliance and will specify the time in which it must be rectified.

The Occupational Health and Safety Officer will issue work stop notices to the Mandatory or subcontractor whenever he is of the opinion that the health and safety of any person at work is threatened or that the contravention notices are not adhered to.

12. FIRST AID

Where five or more persons are employed at a workplace, the Mandatory shall provide and maintain an adequately equipped first-aid box that meets the following requirements:

- (a) Every first-aid box shall contain the minimum contents as prescribed by the Occupational Health and Safety Act.
- (b) Nothing except articles and equipment required for first-aid purposes may be kept in the first-aid box.
- (c) Each first-aid box shall be kept in a place readily accessible in case of an accident. All first-aid boxes shall be placed under control of a responsible person except where five or less persons are at work. The responsible person must be in the possession of a valid first-aid certificate issued by one of the following organizations:

A. South-African Red Cross Society

B. St. John's Ambulance Foundation

C. South-African First-Aid League

A notice indicating where the first-aid box is kept as well as the name of the person in charge shall be affixed in a conspicuous place. The first-aid facilities of the Client may be used during emergencies.

13. FIRE PREVENTION MEASURES AND STORAGE OF FLAMMABLE MATERIAL

The Fire department of the Client shall be notified before any welding, oxyacetylene welding, cutting, burning of paint or tar from floors or roofs is undertaken so that the necessary fire prevention measures can be arranged. All "NO SMOKING AND OPEN SURFACE FIRES/LIGHTS PROHIBITED" notices shall be adhered to. The Mandatory and his senior employee shall acquaint themselves and their fellow workers with the fire prevention measures of the Client, which will also include fire alarm notices and exits in case of fire, and they shall ensure that these rules are strictly complied with.

14. COMPLETION OF WORK

Before the mandatory or his sub-contractors leaves the site they shall inform the Head of the relevant Department of the Client and obtain his/her written approval that the work has been completed satisfactory and that the site of the work is left in a good condition.

15. SALVAGED MATERIAL AND EQUIPMENT

Any building demolished or equipment or materials that are salvaged whilst carrying out the work shall remain the property of the Client, unless the contract specifically provides otherwise.

16. BREAKING OF THESE RULES AND POOR CONDUCT

The Mandatory is warned that no behaviour that causes danger to their own employees, to the employees of the Client or general public will be tolerated. The Occupational Health and Safety Officer of the Client reserves the right of the withdrawal of any employees of the Mandatory or Client from the premises in the case of any default or breach of the agreement and to order that the completion of the work be stayed, pending compliance with this agreement; alternatively to cancel the agreement referred to in par.2 in which event the Client will be entitled to appoint an alternative contractor to complete the work and recover the costs thereof from the mandatory, without prejudice to any alternative or additional right or action or remedy to the Client, to recover from the mandatory damages for the default or breach and the cancellation.

The senior employees of the Mandatory shall sign a note of acknowledgement of this safety agreement to certify that they have received the regulations as included herein and that they understand the regulations

17. INTOXICATION

Nobody that is in a state of intoxication or that is in any other condition that causes or may cause his/her incapability to control him/herself or persons under his control may and shall not be permitted on the premises of the Client. The Occupational Health and Safety Officer of the Client reserves the right to the withdrawal of any employees of the Mandatory or Client from the premises in the case of any transgression of this nature.

18. CONFIDENTIALLY

The Mandatory shall at all times treat data and information that have been made known to him or that he requires in connection with his work from the Client as confidential and he may not make unauthorized use thereof. He must also ensure that such data and information are not communicated to anybody else that is not an employee of the Mandatory without obtaining prior written approval from the Client and he must further ensure that such persons do in fact know that the said information is confidential and that they are obliged to treat it as such.

The Mandatory shall provide for adequate physical protection for any confidential documents, sketches, et cetera that he receives from the Client in connection with the work as well as for any copies thereof that he makes. He shall hand back all documents sketches and copies thereof to the Client upon completion of the work, or earlier, if so requested by the Client. The Mandatory shall inform the Client immediately should any such documents or sketches become lost.

19. INDEMNIFICATION BY THE MANDATORY

The following conditions will be applicable to the Mandatory:

- (a) The Mandatory is liable and herewith indemnifies the Client irrevocably and in full against any claim for loss or damage to property or arising from death or injury of any person and any associated loss or damage suffered, and against all lawsuits, claims, demands, costs, expenses, and charges that may arise when the said occurrences are caused on purpose or through the negligence, violation of legal obligations or failure by the Mandatory or its employees.
- (b) Whenever any of the employees of the Client is busy with work to, or with the supply of material that will be used during the execution of the work by the Mandatory, or otherwise busy with work under the instruction and supervision of the Mandatory, in as far as they may be negligent or fail to do their duty, they will be regarded as employees of the mandatory
- (c) All installations, equipment, hoisting-apparatus and other implements, scaffolding, ladders, material, et cetera that are borrowed from the Client by the Mandatory for usage during the execution of the work, will be used entirely at the risk of the Mandatory or employees of the Mandatory and the Mandatory herewith indemnifies the Client irrevocably and in full against any liability that may arise from such usage.

20. AMENDMENTS MUST BE IN WRITING

The parties agree herewith that this safety agreement is the only safety agreement between them and that no amendment thereof will be valid unless it is in writing and signed by both parties.

21. JURISDICTION AND LEGAL COSTS

In the event of any legal action being instituted pertaining to this agreement the party in default or breach will be liable for the other party's legal costs on the scale as between attorney and own client and the parties consent to the jurisdiction of the magistrate's court for purpose of any legal action being instituted.

**PARTICULARS OF THE
MANDATORY**

e-m ail _____

Name (Mandatory) _____

C.E.O. (Section 16(1)) _____

ID NO.: _____

Designation: _____

Name of Business _____ Address of Business:

Tel number (h) _____ (w) _____

Number of employees employed _____

Registration number as allocated to the Mandatory by the Workman's Compensation

Commissioner _____

Date allocated _____

Thus done and signed on this _____ day of _____ 20 _____

As witnesses:

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

THE MANDATORY

Thus done and signed on this day of _____ 20 _____

As witnesses

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

THE CLIENT

Acknowledgement of receipt of the agreement:

THE MANDATORY

ANNEXURE 2

CONSTRUCTION OCCUPATIONAL HEALTH - SAFETY - ENVIRONMENT AUDIT SYSTEM

(Based on the New Construction Regulations)

** Denotes items applicable to both Construction sites and Contractors Plant/Storage*

1. ADMINISTRATIVE & LEGAL REQUIREMENTS

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 3	Notice of carrying out Construction work	Department of Labour notified Copy of Notice available on Site	
General Admin. Regulation 3	*Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site Readily available for perusal by employees	
COID Act Section 80	*Registration with Compels. Insurer	Written proof of registration / Letter of good standing available on Site	
Construction. Regulation 4 & 5(1)	OH&S Specification & Plan	OH&S Specification received from Client OH&S plan developed Updated regularly	
Section 8(2)(d) and Construction. Regulation 6	*Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and Plan drawn up/Updated Risk Assessment Plan available on Site Employees/Subcontractors informed/trained	
Section 16(2)	*Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to other person/s by CEO.	
Construction. Regulation 5(2)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor	
Construction. Regulation 5(5)(a)	Designation of Subordinate Person	Competent person appointed in writing as Sub-ordinate Construction Supervisor	
Section 17 & 18	*Designation of Occupational Health & Safety Representatives	More than 20 employees - one OH&S Representative, one additional OH&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified. Meaningful OH&S Rep. reports. Reports actioned by Management.	
Section 19 & 20	*Occupational Health & Safety Committee/s	OH&S Committee/s established. Members appointed in writing. Meetings held monthly. Minutes kept. Actioned by Management.	
Section 37	*Agreement with Mandatories (Sub-Contractors)	Written agreement with Subcontractors. List of Subcontractors displayed. Proof of Registration with Compensation Insurer/Letter of Good Standing Construction Work Supervisor designated Written arrangements concerning OH&S Reps & OH&S Committee Written arrangements regarding First Aid	

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 7	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointee's competence available on Site Risk Assessment carried out for work at heights Fall Protection Plan drawn up/updated Available on Site	
Construction. Regulation 8	Roof work	Competent person appointed to plan & supervise Roof work. Proof of appointee's competence available on Site Risk Assessment carried out Roof work Plan drawn up/updated Roof work inspect before each shift. Inspection register kept Employees medically examined for physical & psychological fitness. Written proof available	
Construction. Regulation 9	Structures	Information re. the structure being erected received from the Designer including: - geo-science technical report where relevant - the design loading of the structure - the methods & sequence of construction - anticipated dangers/hazards/special Measures to construct safely Risk Assessment carried out Method statement drawn up All above available on Site Structures inspected before each shift. Inspections register kept	
Construction. Regulation 10	Formwork & Support work	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Support & Formwork Design drawings available on site Risk Assessment carried out Support & Formwork inspected: - before use/inspection - before pouring of concrete - weekly whilst in place - before stripping/dismantling. Inspection register kept	
Construction. Regulation 11	Scaffolding	Competent persons appointed in writing to: - erect scaffolding (Scaffold Erector/s) - act as Scaffold Team Leaders - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Copy of SABS 085 available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept	

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 12	Suspended Scaffolding	<p>Competent persons appointed in writing to:</p> <ul style="list-style-type: none"> - erect Susp.scaffolding (Scaffold Erector/s) - act as Susp.Scaffold Team Leaders - inspect Susp.Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Risk Assessment conducted <p>Certificate of Authorization issued by a registered professional engineer available on Site/copy forwarded to the Department of Labour</p> <p>The following inspections of the whole installation carried out by a competent person</p> <ul style="list-style-type: none"> - after erection and before use - daily prior to use. Inspection register kept <p>The following tests to be conducted by a competent person:</p> <ul style="list-style-type: none"> - load test of whole installation and working parts every 12 months - hoisting ropes/hooks/load attaching devices quarterly. Tests log book kept <p>Employees working on Susp.Scaffold medically examined for physical & psychological fitness. Written proof available</p>	
Construction. Regulation 13	Excavations	<p>Competent person/s appointed in writing to supervise and inspect excavation work</p> <p>Written Proof of Competence of above appointee/s available on Site</p> <p>Risk Assessment carried out</p> <p>Inspected:</p> <ul style="list-style-type: none"> - before every shift - after any blasting - after an unexpected fall of ground - after any substantial damage to the shoring - after rain. Inspections register kept <p>Method statement developed where explosives will be/ are used</p>	
Constructions. Regulation 14	Demolition Work	<p>Competent person/s appointed in writing to supervise and control Demolition work</p> <p>Written Proof of Competence of above appointee/s available on Site</p> <p>Risk Assessment carried out</p> <p>Engineering survey and Method Statement available on Site</p> <p>Inspections to prevent premature collapse carried out by competent person before each shift. Inspection register kept</p>	
Construction. Regulation 16	Materials Hoist	<p>Competent person appointed in writing to inspect the Material Hoist</p> <p>Written Proof of Competence of above appointee available on Site.</p> <p>Materials Hoist to be inspected weekly by a competent person. Inspections register kept.</p>	
Construction. Regulation 17	Caissons & Cofferdams	<p>Competent person appointed in writing to supervise, control & inspect the construction, installation/dismantling of caissons/coffer dams</p> <p>Written Proof of Competence of above appointee available on Site</p>	

Section/Regulation	Subject	Requirements	Yes/No
		Risk Assessment carried out To be inspected daily by a competent person. Inspections register kept	
Construction. Regulation 18	Explosive Powered Tools	Competent person appointed to control the issue of the Explosive Powered Tools & cartridges and the service, maintenance and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use	
Construction. Regulation 19	Batch Plants	Competent person appointed to control the operation of the Batch Plant and the service, maintenance and cleaning. Register kept of above Risk Assessment carried out Batch Plant to be inspected weekly by a competent person. Inspections register kept	
Construction. Regulation 20/ Mine Health & Safety Act (29 of 1996)	Tunnelling	Complying with Mines Health & Safety Act (29 of 1996) Risk Assessment carried out	
Construction. Regulation 21/ Driven Machinery Regulations 18 & 19	Cranes & Lifting Machines Equipment	Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment Written Proof of Competence of above appointee available on Site. Cranes & Lifting tackle identified/numbered Register kept for Lifting Tackle Log Book kept for each individual Crane Inspection: - All cranes - daily by operator - Tower Crane/s – after erection/6monthly - Other cranes – annually by comp. person - Lifting tackle (slings/ropes/chain slings etc.) - 3 monthly Risk Assessment carried out	
Construction. Regulation 22/Electrical Machinery Regulations 9 & 10/Electrical Installation Regulations	*Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept Portable electric tools and -lights and extension leads identified/numbered. Monthly visual inspection by User/Issuer/Storeman. Register kept.	
Construction. Regulation 2 Diving Regulations	Water Environments	Competent person appointed in writing to supervise diving operations and ensure maintenance, statutory inspection and testing by an Approved Inspection Authority of equipment used Written Proof of Competence of above appointee available on Site Proof of registration of all divers present on site available	

Section/Regulation	Subject	Requirements	Yes/No
		<p>Risk Assessment carried out</p> <p>Diving Manual produced. Available on Site</p> <p>Record of Voice Communications kept</p> <p>Diving Operations record kept</p> <p>Each Diver keeps a personal logbook. Entries countersigned by the Diving Supervisor</p> <p>Decompression tables available on Site</p> <p>Records of any Decompression illness kept</p> <p>Certificate of Manufacture of any Compression Chamber or Diving Bell in use available on Site</p>	
Construction. Regulation 30/ General Safety Regulation 8(1)(a)	*Designation of Stacking & Storage Supervisor.	<p>Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage</p> <p>Written Proof of Competence of above appointee available on Site</p>	
Construction. Regulation 31/ Environmental Regulation 9	*Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	<p>Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures</p> <p>Emergency Evacuation Plan developed:</p> <ul style="list-style-type: none"> - Drilled/Practiced - Plan & Records of Drills/Practices available on Site <p>Fire Risk Assessment carried out</p> <p>All Fire Extinguishing Equipment identified and on register.</p> <p>Inspected weekly. Inspection Register kept</p> <p>Serviced annually</p>	
Construction. Regulation 32/ General Safety Regulation 3	*First Aid	<p>Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed)</p> <p>First Aid freely available</p> <p>Equipment as per the list in the OH&S Act.</p> <p>One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed)</p> <p>List of First Aiders and Certificates</p> <p>Name of person/s in charge of First Aid box/es displayed.</p> <p>Location of F/Aid box/es clearly indicated.</p> <p>Signs instructing employees to report all Injuries/illness including first aid injuries</p>	
Construction. Regulation 33/ General Safety Regulation 2	Personal Safety Equipment (PSE)	<p>PSE Risk Assessment carried out</p> <p>Items of PSE prescribed/use enforced</p> <p>Records of Issue kept</p> <p>Undertaking by Employee to use/wear PSE</p>	
Construction. Regulation 34/ General Safety Regulation 9	*Inspection & Use of Welding/Flame Cutting Equipment	<p>Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment</p> <p>Written Proof of Competence of above appointee available on Site</p> <p>Equipment identified/numbered and entered into a register</p> <p>Equipment inspected monthly. Inspection Register</p>	

Section/Regulation	Subject	Requirements	Yes/No
		kept	
Construction. Regulation 35/ Hazardous Chemical Substances (HCS)	*Control of Storage & Usage of HCS	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS Written Proof of Competence of above appointee available on Site Risk Assessment carried out Register of HCS kept/used on Site	
Construction. Regulation 36/Vessels under Pressure Regulations	Vessels under Pressure (VUP)	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on Site Risk Assessment carried out Certificates of Manufacture available on Site Register of VUP's on Site Inspections & Testing by Approved Inspection Authority (AIA): <ul style="list-style-type: none"> - after installation/re-erection or repairs - every 36 months. - Register/Log kept of inspections, tests. Modifications & repair 	
Construction. Regulation 37	Construction Vehicles & Earth Moving Equipment	Operators/Drivers appointed to: <ul style="list-style-type: none"> - Carry out a daily inspection prior to use - Drive the vehicle/plant that he/she is competent to operate/drive Written Proof of Competence of above appointee available on Site Record of Daily inspections kept	
Construction. Regulation 38/ General Safety Regulation 13D	*Inspection of Ladders	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and monthly thereafter. Inspections register kept	
Construction. Regulation 39/ General Safety regulation 13B	Ramps	Competent person appointed in writing to Supervise the erection & inspection of Ramps. Inspection register kept.	

ANNEXURE 2

GUIDELINES FOR THE DEVELOPMENT OF A HEALTH & SAFETY PLAN

1. PROJECT BACKGROUND

In terms of the Construction Regulations [Regulation 4 (1) (a)] of the Occupational Health and Safety Act, No 85 of 1993, the Client is required to compile an Occupational Health and Safety specification for each of its projects and the Principle Contractor, appointed by the Client in terms of Regulation 4 (1) (c), is required to prepare an Occupational Health and Safety Plan. This plan has to be prepared in terms of Regulation 5 (1) as well as the Client's Occupational Health & Safety Specification. In terms of Regulation 4 (2), the Client and the Principle Contractor are required to agree on the Occupational Health and Safety Plan before any work may commence.

2. FRAMEWORK FOR AN OCCUPATIONAL HEALTH AND SAFETY PLAN

2.1 INTRODUCTION

The Principal Contractor has to demonstrate to the Client that he has a suitable and sufficiently documented Occupational Health and Safety Plan as well as the necessary competencies, experience and resources to perform the construction work safely. The Principle Contractor could be required to submit the following documentation for perusal and verification by the Client:

- **Management Structure**
- **Quality Plan**
- **Human Resources Plan**
- **Registered Workplace Skills Plan**
- ***“Letter of good standing” from the Compensation Commissioner or licensed compensation insurer.***
- **Proof of induction and other training of employees**
- ***Example copy minutes of previous Occupational Health and Safety Committee meetings and copies of Incident Investigation Reports***

2.2 CONTENTS OF AN OCCUPATIONAL HEALTH AND SAFETY PLAN

2.2.1 Occupational Health and Safety Management Programme

- Management of Occupational Health and Safety risks
- Occupational Health and Safety structures and appointments
- Programme of Occupational Health and Safety inspections
- Occupational Health and Safety Representatives
- Occupational Health and Safety committee

2.2.2 Communication and Management of the Work

- Management structure and responsibilities
- Occupational Health and Safety goals for the project and arrangements for monitoring and review of Occupational Health and Safety performance.
- Arrangements for:
 - Regular liaison between parties on site
 - Consultation with the workforce
 - The exchange of design information between the Client, engineer, supervisors and contractors on site
 - Handling design changes during the project
 - Selection and control of contractors

- The exchange of Occupational Health and Safety information between all contractors
- Security
- Site induction and onsite training
- Facilities and first-aid
- The reporting and investigation of accidents and incidents
- The production and approval of risk assessments and method statements
- Site OH&S rules
- Fire and emergency procedures
- Reporting to the Client i.e. results of Occupational Health and Safety inspections, incident and incident investigations and committee meetings
- Reporting of incidents to the Department of Labour and Compensation insurer where appropriate

2.2.3 Arrangements for controlling significant site risks

The following are some examples of the arrangements for controlling the most significant site risks:

- **SAFETY RISKS**
 - Services, including temporary electrical installations
 - Preventing employees from falling into excavations, from trucks etc.
 - Work with, on or near fragile materials
 - Control of lifting operations
 - The maintenance of plant and equipment
 - Poor ground conditions
 - Traffic routes and segregation of vehicles and pedestrians
 - Storage of hazardous materials
 - Dealing with existing unstable structures/land
 - Accommodating adjacent land use
 - Other significant safety risks as and when identified
- **HEALTH RISKS**
 - Storage and use of hazardous chemical substances
 - Dealing with contaminated land or material
 - Manual handling
 - Reducing noise and vibration
 - Provision of adequate lighting
 - Ventilation considerations
 - Extreme heat and cold temperature considerations
 - Dealing with HIV/Aids and other illnesses
 - Provision of and maintaining ablution and eating facilities
 - **Other significant health risks as and when identified**

2.2.4 Preparation of an Occupational Health and Safety Operational Reference File/Manual

THE FOLLOWING ARE SOME OF THE REQUIREMENTS TO BE ADDRESSED:

- Layout, format and content requirements
- Arrangement for the collection and gathering of information

- Storage and archiving of all the information
- Copy to the Client at completion of project

SUGGESTED CONTENTS OF AN OH&S FILE/MANUAL

- OH&S Policy
- Notice of new project
- Site start-up
- Security measures
- Written designations & appointments
- Arrangements with contractors/mandatories
- OH&S rules and procedures
- Induction
- OH&S training
- OH&S promotion
- OH&S representatives
- OH&S committees
- Workplace facilities e.g. ablutions, sheltered eating areas etc.
- Protective equipment
- Workplace inspections and audits
- Investigation & reporting of incidents/accidents
- Mechanical safeguarding
- Electrical safeguarding
- Safeguarding against hazardous substances
- Lifting machinery & equipment
- Construction vehicles & mobile plant
- Welding, heating & flame cutting
- Excavations
- Protection of the environment affected by construction activities
- Keeping of records in terms of the OH&S Act (85 of 1993)

ANNEXURE 3

GUIDE TO RISK ASSESSMENT

1. HOW TO DO IT?

2. STEPS TO EFFECTIVE RISK ASSESSMENT

- Step 1 : Identifying the hazards
- Step 2 : Aim to identify major hazards, don't waste time on the minor & detail
- Step 3 : Involve as many people as possible in the process especially those at risk
- Step 4 : Gather all the information and analyse it
- Step 5 : Look at what actually occurs including non-routine operations
- Step 6 : Use a systematic approach to ensure all hazards are adequately addressed
- Step 7 : Assess the risks arising considering the effectiveness of controls
- Step 8 : Ensure the process is practical and realistic
- Step 9 : Always record the assessment in writing including assumptions and why

3. HOW SERIOUS IS IT?

PROBABILITY	CONSEQUENCES
A Common	1 Fatality or permanent disability
B Has Happened	2 Major injury
C Could Happen	3 Average Lost Time Injury
D Not Likely	4 Minor Injury
E Practically impossible	5 Medical Treatment or less

C
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A PROBABILITY
B C D E

1	1	2	3	4	5
2	2	3	4	5	6
3	3	4	5	6	7
4	4	5	6	7	8
5	5	6	7	8	9

ACTION

Risk Rating:

1 – 3 =	Serious	Immediate (within 1 week)
4 - 5 =	High	Within 1 month
6 – 7 =	Moderate	> 4 weeks
8 – 9 =	Acceptable	No action

ANNEXURE B

Pro-forma agreement in terms of Occupational Health and Safety Act

PRO-FORMA AGREEMENT IN TERMS OF

OCCUPATIONAL HEALTH AND SAFETY ACT 1993 – SECTION 37 (2)

NEW CONSTRUCTION SAFETY REGULATIONS

1. The above-mentioned regulations were promulgated in the Govt. Gazette on Friday, 18 July 2003 under the Occupational Health & Safety Act (85 of 1993) and are now in force.

2. The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 1993 (Act 85 of 1993, hereinafter referred to as the Act), that the following arrangements and procedures shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely:

- (a) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all the relevant provisions of the Act and the regulations promulgated in terms of the Act, and the Employer's Health and Safety Specifications included in the contract documents.
- (b) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations and the Employer's Health and Safety Specifications included in the contract documents will be complied with in all respects.
- (c) In relation to any work or activity performed by the Contractor, his workmen or any other person for whose acts or omissions the Contractor is responsible in terms of the Contract, the Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the Employer from itself being obliged to comply with any of the aforesaid duties, obligations and prohibitions.
- (d) The Contractor agrees that any duly authorised officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as set out more fully in paragraphs (a) and (b) above, which steps may include, but will not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to inspect any appropriate records held by the Contractor.
- (e) The Contractor shall be obliged to report forthwith in writing to the Representative/Agent full details of any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this Contract.
- (f) Forward "safety meeting" minutes to the representative/Agent.

For the Employer: _____ Date: _____

Witnesses: (1): _____ (2) _____

For the Contractor: _____ Date: _____

Witnesses: 1): _____ 2) _____

ANNEXURE C

Notification of construction work

ANNEXURE 1

APPLICATION FOR A PERMIT TO DO CONSTRUCTION WORK

[In terms of Regulation 3(2) of Construction Regulations, 2014]

This application must be submitted with the following documents:

1. Health and Safety specification.
2. Health and Safety plan.
3. Baseline risk assessment.

1. Name, postal address and telephone numbers of the client:

2. Details of the Agent.

- a. Title, Surname and Initials. _____
- b. Identity number/ Passport Number _____
- c. Registration number with SACPCMP _____
- d. Office Tel. number and/or Mobile number _____
- e. Postal address. _____

3. Name, postal address and telephone numbers of the appointed principal contractor:

4. Name, postal address and telephone numbers of designer of the project:

5. Name, postal address and telephone numbers of the following persons:

a. Construction Manager:

b. Construction Health and Safety Manager:

c. Construction Health and Safety Officer:

6. Exact physical address of the construction and site office:

7. Nature of construction work:

8. Expected commencement date:

9. Expected completion date:

10. Estimated maximum number of persons on the construction site:

11. Planned number of contractors on site accountable to principal contractor:

12. Name(s) of contractors appointed:

13.

Signature of Client/Client's Agent

14.

Signature of the Principal Contractor

FOR OFFICE ONLY

Authorization /Unique No.	LABOUR CENTRE	OFFICIAL APPROVAL STAMP

15. Date of application: _____

16. Submitted documents prescribed in Construction Regulation 5(4) (Please Tick ✓):

CR 5(1)(a)		CR 5(1)(b)		CR 5(1); (C-S)	
------------	--	------------	--	-------------------	--

17. Result of the application (Please Tick ✓):

Approved		Declined	
-----------------	--	-----------------	--

18. Reason for declining the application:

19. _____
Signature of the Supervisor

20. _____
Signature of revoking Officer/ Inspector


**ANNEXURE 2:
ENVIRONMENTAL SPECIFICATION**



Environmental Management Plan

2024



	Title: Environmental Management Plan	Doc No: SHEQ 6.1.4.2
	Issued: 26 Feb 2026	Rev: 6

Report Details

Prepared By:



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and;

Completion Date:

12 June 2017

Review Date:

02 August 2017
 21 August 2017
 12 October 2018
 07 September 2020
 08 March 2021
 01 February 2022



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Revision log	Comment
Version 1	Original EMPr
Version 2 12 October 2018	Revised to reflect the generic Environmental Management Programme (EMPr) applicable to an application for overhead electricity transmission and distribution infrastructure.
Version 3 07 September 2020	Reviewed to ensure compliance with the latest standards and legislation.
Version 4 08 March 2021	Reviewed to ensure compliance with the latest standards and legislation.
Version 5 01 February 2022	Reviewed to ensure compliance with the latest standards and legislation.




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Abbreviations

ACM	Asbestos-Containing Materials
CA	Competent Authority
CE	Consulting Engineer(s)
CEO	Contractors Environmental Officer
DEO	Developer Environmental Officer
DPM	Developer Project Manager
DSS	Developer Site Supervisor
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EAR	Environmental Assessment & Remediations
ECO	Environmental Control Officer
EMPr	Environmental Management Programme
EO	Environmental Officer
ERAP	Emergency Response Action Plan
FPA	Fire Protection Agency
GNR	Government Notice Regulation
HCS	Hazardous Chemical Substance
I&AP	Interested & Affected Parties
MSDS	Material Safety Data Sheet
NEM: AQA	National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004)
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
PM	Project Manager
SAHRA	South African Heritage Resource Agency

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Definitions

Aspect	Element of an organisation's activities, products or services that can interact with the environment.
Clearing	The clearing and removal of vegetation, whether partially or in whole, including trees and shrubs, as specified.
Construction camp	The area designated for key construction infrastructure and services, including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management.
Construction Waste	Construction waste means waste, excluding hazardous waste, produced during the construction, alteration, repair or demolition of any structure, and includes rubble, earth, rock and wood displaced during that construction, alteration, repair or demolition.
Contractor	The Contractor has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract, are in line with the Environmental Management Programme and that Method Statements are implemented as described.
Environment	Our surroundings, including living and non-living elements, e.g. land, soil, plants, animals, air, water and humans. The environment also refers to our social and economic surroundings, and our effect on our surroundings.
Environmental Impact	A change to the environment, whether negative or positive, resulting from an organisation's activities, products or services.
General Waste	General waste means waste, excluding hazardous waste, that emanates from premises that are used wholly or mainly for residential, educational, health care, sport or recreational purposes.
Hazardous Substances	A substance governed by the Hazardous Substances Act. 1973 (Act No. 15 of 1973) as well as the Hazardous Chemical and Substances Regulations, 1995.
Hazardous Waste	Hazardous waste means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste have a detrimental impact on health and the environment.
Impact	A description of the potential effect or consequence of an aspect of the project on the environment or people surrounding the project area.
Method statement	<p>A written submission by the Contractor to the Project Manager in response to this EMP or a request by the Project Manager and ECO. The Method Statement must set out the equipment, materials, labour and method(s) the Contractor proposes using to carry out an activity identified by the Project Manager when requesting the Method Statement. This must be done in such detail that the Project Manager and ECO is able to assess whether the Contractor's proposal is in accordance with this specification and/or will produce results in accordance with this specification:</p> <p>The Method Statement shall cover applicable details with regard to:</p> <ul style="list-style-type: none"> (i) Construction procedures; (ii) Plant, materials and equipment to be used; (iii) Transporting the equipment to and from site; (iv) How the plant/ material/ equipment will be moved while on site; (v) How and where the plant/ material/ equipment will be stored; (vi) The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;

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	(vii) Timing and location of activities; (viii) Compliance / non-compliance; and (ix) Any other information deemed necessary by the Project Manager.
Mitigation	Measures or actions designed to avoid or reduce the negative impacts on the environment.
Slope	The inclination of a surface expressed as one unit of rise or fall for so many horizontal units.
Solid Waste	All solid waste, including construction debris, hazardous waste, excess cement/ concrete, wrapping materials, timber, cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).
Spoil	Excavated material which is unsuitable for use as material in the construction works or is material which is surplus to the requirements of the construction works.
Topsoil	A varying depth (up to 300 mm) of the soil profile irrespective of the fertility, appearance, structure, agricultural potential, fertility and composition of the soil.
Works	The works to be executed in terms of the Contract.

1. Introduction

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1.1 Background

Ecosphere has compiled this EMPr for Consulting Engineers to manage the way their activities may impact the environment. They is committed towards environmental conscientiousness and this EMPr will also serve as a guideline to all subcontractors with regards to environmental management.

The National Environmental Management Act 107 of 1998 (NEMA) requires that an environmental management programme (EMPr) be submitted where an environmental impact assessment (EIA) has been identified as the environmental instrument to be utilised as the basis for a decision on an application for environmental authorisation (EA). The content of an EMPr must either contain the information set out in Appendix 4 of the EIA Regulations, 2014, or must be a generic EMPr relevant to an application as identified and gazetted by the Minister in a government notice. Once the Minister has identified, through a government notice that a generic EMPr is relevant to an application for EA, that generic EMPr must be applied by all parties involved in the EA process, including but not limited to the applicant and the competent authority (CA).

1.2 Purpose

This Environmental Management Programme is relevant to new electricity distribution or transmission projects as well as the expansion of overhead electricity transmission and distribution infrastructure, and all listed and specified activities necessary for the realisation of such infrastructure.

1.3 Objectives


The objective of this EMPr is to prescribe and pre-approve generally accepted impact management outcomes and actions which can commonly and repeatedly be used for the avoidance, management and mitigation of impacts and risks associated with the development or expansion for overhead electricity transmission and distribution infrastructure.

This EMP is compiled using the following principles to strive towards a more sustainable and effective development:

1. **Continuous improvement:** The EMP must be continually reviewed and improved upon to enhance the environmental management.
2. **Wide level of commitment:** For the EMP to be successful and effective, commitment from all management levels as well as the workforce are required.
3. **Responsive and flexible:** The EMP is a “living” document, which has to respond to problems and incidents during the project lifespan. Therefore, regular review and revision of the EMP is required.
4. **Integration across operations:** The integration of the different operations (safety, health and environmental departments) within the EMP should be done to ensure that the environmental management are seen as a single domain.
5. **Legislation:** It is important that management personnel be aware that certain activities during the construction phase will require further licensing or environmental approval. The ECO must therefore be consulted on a regular basis during this phase.

The objectives of an EMPr are to:

- Ensure compliance with regulatory authority stipulations and guidelines;
- Ensure compliance with relevant legislation;

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- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels; and
- Identify measures that could optimize beneficial impacts.

The EMP focuses on the following:

- Avoiding potential negative impacts;
- Mitigation of negative impacts to a minimal or insignificant level;
- Minimising the negative impacts on the environment; and
- Monitoring and management of the impacts on the environment as a result of the development.

1.4 Scope

The scope of this EMP applies to the development or expansion of overhead electricity transmission and distribution infrastructure.

The EMP will address issues related to the following activities:


- The construction of overhead lines (11 -132kV);
- Underground cable works;
- Refurbishments of old substations;
- Construction and/or expansion of new substation;
- Electrical maintenance work;
- Building electrical installations;
- Industrial electrical installations;
- Electrical installations;
- Engineer Procure and Construction project.

Applicable Voltages (SANS 1019-2001):

- Low Voltage (Less than 1000V)
- Medium Voltage (2.2kV, 3.3kV, 6.6kV, 11kV; 22kV; 33kV)
- Sub-transmission (44kV; 66kV; 88kV; 132kV)

2. Details of the Author

This report was compiled by:

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Email: christelle@ecosphere.co.za

Christelle Greyling is an environmental scientist who holds a M.Sc. Environmental Management. She is registered as a professional natural scientist with SACNASP and has six years' experience in the environmental management and biodiversity fields doing impact assessments, license applications, EMP's, rehabilitation plans etc.


3. Applicable legislation

The following legislation was taken into consideration during the preparation of the EMP:


- Conservation of Agricultural Resources Act (Act No. 43 of 1983). Government Notice No. 2687. Government Gazette: Pretoria.
- Department of Environmental Affairs and Tourism (DEAT) (2004): Integrated Environmental Management Information Series. Department of Environmental Affairs and Tourism (DEAT): Pretoria.
- Environmental Impact Assessment Regulations (Government Notice No. R. 982 of 2014).
- List of Activities and Competent Authorities (Government Notice No. R. 983 of 2014).
- List of Activities and Competent Authorities (Government Notice No. R. 984 of 2014).
- National Environment Conservation Act (Act No. 73 of 1989). Government Gazette: Pretoria.
- National Environment Management: Waste Act (Act No. 59 of 2008). Government Notice No. 32000. Government Gazette: Pretoria.
- National Environmental Management Act (Act No. 107 of 1998). Government Notice No. 19519. Government Gazette: Pretoria.
- National Environmental Management Laws Act (Act No. 14 of 2013). Government Notice No. 36703. Government Gazette: Pretoria.
- National Environmental Management: Biodiversity Act (Act No. 10 of 2004). Government Notice No. 26436. Government Gazette: Pretoria.
- National Environmental Management: Protected Areas Act (Act No. 57 of 2003). Government Notice No. 26025. Government Gazette: Pretoria.
- National Heritage Resources Act (Act No. 25 of 1999). Government Notice No. 19974. Government Gazette: Pretoria.
- National Water Act (Act No. 36 of 1998). Government Notice No. 19182. Government Gazette: Pretoria.
- Spatial Planning and Land Use Management Act (Act No. 16 of 2013). Government Notice No. 559 of 2013.
- The Constitution of the Republic of South Africa (Act No. 108 of 1996).

4. Roles and responsibilities


The effective implementation of this EMP is dependent on established and clear roles, responsibilities and reporting lines within an institutional framework. The table below provides guidance to the various environmental roles and reporting lines.

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Function	Role and Responsibilities
Developer's Project Manager (DPM)	<p>The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). An independent environmental control officer (ECO) must be contracted by the Project Developer to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of environmental authorization (EA). The Project Developer is further responsible for providing and giving mandate to enable the ECO to perform responsibilities, and he must ensure that the ECO is integrated as part of the project team while remaining independent.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> - Be fully conversant with the conditions of the EA; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s); - Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and - Ensure that periodic environmental performance audits are undertaken on the project implementation.
Developer Site Supervisor (DSS)	<p>The DSS reports directly to the DPM, oversees site works, liaises with the contractor(s) and the ECO. The DSS is responsible for the day to day implementation of the EMPr and for ensuring the compliance of all contractors with the conditions and requirements stipulated in the EMPr.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> - Ensure that all contractors identify a contractor's Environmental Officer (CEO); - Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO; - Must ensure that all landowners have the relevant contact details of the site staff, ECO and CEO; - Will issue all non-compliances to contractors; and - Ratify the Monthly Environmental Report.
Environmental Control Officer (ECO) (In cases where EA was not required, the contractor should have a representative with environmental experience to fulfil these responsibilities)	<p>The ECO should be employed by the developer for the duration of the project. The ECO should have appropriate training and experience in the implementation of environmental management specifications. The primary role of the ECO is to act as an independent quality controller and monitoring agent regarding all environmental concerns and associated environmental impacts. In this respect, the ECO is to conduct periodic site inspections, attend regular site meetings, pre-empt problems and suggest mitigation and be available to advice on incidental issues that arise. The ECO is also required to conduct compliance audits, verifying the monitoring reports submitted by the CEO. The ECO provides feedback to the DSS and Project Manager regarding all environmental matters. The Contractor, CEO and ECO are answerable to the Environmental Control Officer for non-compliance with the Performance Specifications as set out in the EA and EMPr.</p> <p>The ECO provides feedback to the DSS and Project Manager, who in turn reports back to the Implementing Agent and potential and Registered Interested & Affected Parties (RI&AP's), as required. Issues of non-compliance raised by the ECO must be taken up by the Project Manager, and resolved with the Contractor</p>

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	<p>as per the conditions of his contract. Decisions regarding environmental procedures, specifications and requirements which have a cost implication (i.e. those that are deemed to be a variation, not allowed for in the Performance Specification) must be endorsed by the Project Manager.</p> <p>The ECO must also, as specified by the EA, report to the relevant CA as and when required.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> - Be aware of the findings and conclusions of all EA related to the development; - Be familiar with the recommendations and mitigation measures of this EMPr; - Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them; - Undertake regular and comprehensive site inspections/ audits of the construction site according to the generic EMPr and applicable licenses in order to monitor compliance as required; - Educate the construction team about the management measures contained in the EMPr and environmental licenses; - Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective; - Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements; - In consultation with the Developer Site Supervisor order the removal of person(s) and/or equipment which are in contravention of the specifications of the EMPr and/or environmental licenses; - Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns; - Issuing of site instructions to the Contractor for corrective actions required; - Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr; - Validating the regular site inspection reports, which are to be prepared by the Contractor Environmental Officer (CEO); - Checking the CEO's record of environmental incidents [spills, impacts, legal transgressions etc.) as well as corrective and preventive actions taken; - Checking the CEO's public complaints register in which all complaints are recorded, as well as action taken; - Assisting in the resolution of conflicts; - Facilitate training for all personnel on the site - this may range from carrying out the training, to reviewing the training programmes of the Contractor and/or sub-contractors; - In case of non-compliances, the ECO must first communicate this to the Senior Site Supervisor, who has the power to ensure this matter is
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	<p>addressed. Should no action or insufficient action be taken, the ECO may report this matter to the authorities as non-compliance;</p> <ul style="list-style-type: none"> - Maintenance, update and review of the EMPr; - Communication of all modifications to the EMPr to the relevant stakeholders.
Developer Environmental Officer (DEO)	<p>The DEOs will report to the Project Manager and are responsible for implementation of the EMPr, environmental monitoring and reporting, providing environmental input to the Project Manager and Contractor's Manager, liaising with contractors and the landowners as well as a range of environmental coordination responsibilities.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> - Be fully conversant with the EMPr ; - Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) and its sub-contractor(s); - Confine the development site to the demarcated area; - Conduct environmental internal audits with regards to EMPr and authorisation compliance (on CEO); - Assist the contractors in addressing environmental challenges on site; - Assist in incident management: - Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared; - Assist the contractor in investigating environmental incidents and compile investigation reports; - Follow-up on pre-warnings, defects, non-conformance reports; - Measure and communicate environmental performance to the Contractor; - Conduct environmental awareness training on site together with ECO and CEO; - Ensure that the necessary legal permits and / or licenses are in place and up to date; - Acting as Developer's Environmental Representative on site and work together with the ECO and contractor; - Audit carried out by an independent auditor/consultant.
Contractor	<p>The Contractor appoints the CEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities.</p> <p>Responsibilities</p> <ul style="list-style-type: none"> - Project delivery and quality control for the development services as per appointment;

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	<ul style="list-style-type: none"> - Employ a suitably qualified person to monitor and report to the Project Developer's appointed person on the daily activities on-site during the construction period; - Ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely; - Attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones; - Ensure that contractors' staff (or sub-contractors) repairs, at their own cost, any environmental damage as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO.
Contractor Environmental Officer (CEO)	<p>Each Contractor affected by the EMPr should appoint a CEO, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer and the public. As a minimum the CEO shall meet the following criteria: The CEO ensures that all Sub-contractors working under the Contractor abide by the requirements of the generic EMPr. The Contractor is answerable to the Project Manager for all environmental issues associated with the project.</p> <p>Responsibilities:</p> <ul style="list-style-type: none"> - Be on site throughout the duration of the project and be dedicated to the project; - Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site; - Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements; - Attend the Environmental Site Meeting; - Undertaking corrective actions where non-compliances are registered within the stipulated timeframes; - Report back formally on the completion of corrective actions; Assist the ECO in maintaining all the site documentation; - Prepare the site inspection reports and corrective action reports for submission to the ECO; Assist the ECO with the preparing of the monthly report; and - Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a CEO representing that company.

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5. Impact Management outcomes and actions

5.1.Environmental Awareness Training


Impact management outcome: All onsite staff are aware and understands the individual responsibilities in terms of this EMPr.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> All staff must receive environmental awareness training prior to commencement of the activities; The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course; Refresher environmental awareness training is available as and when required; All staff are aware of the conditions and controls linked to the EA and within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr; The Contractor must erect and maintain information posters at key locations on site; Environmental awareness training should include as a minimum the following: <ol style="list-style-type: none"> Description of significant environmental impacts, actual or potential, related to their work activities; Mitigation measures to be implemented when carrying out specific activities; Emergency preparedness and response procedures; Emergency procedures; Procedures to be followed when working near or within sensitive areas; Wastewater management procedures; Water usage and conservation; Solid waste management procedures; Sanitation procedures; and Disease prevention. A record of all environmental awareness training courses undertaken as part of the EMPr must be available; 	Client	The training will be done through a qualified environmental person via a visual and audible presentation.	<p>Prior to the commencement of the activity.</p> <p>On a monthly basis during construction.</p>	Client	Monthly	Attendance registers and training records.

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<ul style="list-style-type: none"> – Educate workers on the dangers of open and/or unattended fires; – A staff attendance register of all staff to have received environmental awareness training must be available. – Course material must be available and presented in appropriate languages. 						
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5.2.Site Establishment development

Impact management outcome: Impacts on the environment are minimized when developing new infrastructure and the development footprint are kept to demarcated development area.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – A method statement must be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management; – Location of camps must be within approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment or site walk through; – Sites should be located where possible on previously disturbed areas; – The camp must be fenced in accordance with Section 5.5: – Fencing and gate installation; and – The use of existing accommodation for contractor staff, where possible, is encouraged. 	Client	Approved method statements.	Prior to the commencement of construction and maintenance works.	Client	<p>Prior to the commencement of the construction or maintenance works.</p> <p>As and when required.</p>	Record keeping of signed method statements.


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5.3. No-Go areas

Impact management outcome: Access to No go areas prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – Identification of No-Go areas is to be informed by the environmental assessment, site walk through and any additional areas identified during development; – Erect, demarcate and maintain a temporary fence around the perimeter of any No-Go area; – Fencing of No-Go areas is to be undertaken in accordance with Section 5.5: Fencing and gate installation; and – Unauthorized access and development related activity inside No-Go areas is prohibited. 	Contractor	<p>Erecting fences and banners.</p> <p>The no-go areas will be included in the environmental awareness training.</p>	<p>Prior to the commencement of construction, during site preparation to prevent access.</p> <p>Prior to the commencement of maintenance works.</p>	Contractor	Weekly	Training records.

5.4. Access roads


Impact management outcome: Minimize impact to the environment through the planned and restricted movement of vehicles on site.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – Access to the servitude and tower positions must be negotiated with the relevant landowner and must fall within the assessed and authorized area; – An access agreement must be formalized and signed by the DPM, Contractor and landowner before commencing with the activities; – The access roads to tower positions must be signposted after access has been negotiated and before the commencement of the activities; – Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; – Maximum use of both existing servitudes and existing roads must be made; – In circumstances where private roads must be used, the 	Contractor	<p>Determine prior to the commencement of construction the roads and servitudes to be used.</p> <p>Identify which roads or access will be used as the project proceeds to make arrangements.</p>	<p>Prior to the commencement of construction.</p>	Contractor	Weekly	Photographic record prior to use.

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<p>condition of the said roads must be recorded in accordance with section 6.9: photographic record; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor;</p> <ul style="list-style-type: none"> – All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition. As far as possible, access roads must follow the contours in hilly areas, as opposed to winding down steep slopes; – Access is to be established by vehicles passing over the same track on natural ground, multiple tracks are not permitted. – Access roads must only be developed where necessary at watercourses, on steep slopes or where boulders prohibit vehicular traffic; and – Upon completion of development, only roads as indicated by the DPM must be closed. 						
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5.5. Fencing and Gate installation


Impact management outcome: To minimize Impact to the environment and ensure safe and controlled access to the site through the erection of fencing and gates where required.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – Use existing gates provided to gain access to all parts of the defined Working Area, where possible; – Existing and new gates to be recorded and documented in accordance with section 6.9: photographic record; – All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner; – At points where the line crosses a fence in which there is no suitable gate within the extent of the line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner; – Care must be taken that the gates must be so erected that there is a gap of no more than 100 mm between the bottom of the gate and the ground; – Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided 	Contractor	The overall project areas and other areas requiring demarcation and fencing must be discussed prior to the commencement of construction.	Prior to the commencement of construction.	Contractor	Monthly As and when required.	Record keeping of the integrity of all fences and gates.

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beneath the gate; – Original tension must be maintained in the fence wires; – All gates installed in electrified fencing must be re-electrified; – All demarcation fencing and barriers must be maintained in good working order for the duration of overhead transmission and distribution electricity infrastructure development activities; – Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated no-go areas, where applicable; – All fencing must be developed of high-quality material bearing the SABS mark; – The use of razor wire as fencing must be avoided; – Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site. – Site security will be required at all times; – On completion of the development phase all temporary fences are to be removed; – The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely.						
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5.6. Water Supply Management


Impact management outcome: Undertake responsible water usage.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
– All abstraction points or bore holes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis; – Should water abstraction be required and the necessary authorisation from DWS and permission from the landowner has been received, the Contractor must ensure the following: <ol style="list-style-type: none"> The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river; 	Contractor	Prior to the commencement of construction determine the source of water supply. Ensure all licenses are in order for abstraction from water sources.	Prior to the commencement of construction.	Contractor	Daily	Record keeping of the amounts of water abstracted. Water abstraction log, if required.

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<ul style="list-style-type: none"> b. No damage occurs to the river bed or banks and that the abstraction of water does not entail stream diversion activities; and c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented. <ul style="list-style-type: none"> - Ensure water conservation is being practiced by: <ul style="list-style-type: none"> a. Minimizing water use during cleaning of equipment; b. Undertaking regular audits of water systems; and c. Including a discussion on water usage and conservation during environmental awareness training. 						
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5.7. Storm and waste water management

Impact management outcome: Impacts to the environment caused by storm water and wastewater discharges during construction are avoided.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Appropriate pollution control facilities necessary to prevent discharge of water containing polluting matter or visible suspended materials into watercourses or water bodies must be designed and implemented; - Run off from the cement/ concrete batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location approved by the project manager; - All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility; - Natural storm water runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies subject to the Project Manager's approval and support by the ECO; - Water that has been contaminated with suspended solids, such as soils and silt, may be released into watercourses or water bodies only once all suspended solids have been 	Contractor	<p>Stormwater Management Plan needs to be implemented.</p> <p>Spillage kits need to be readily available on site.</p> <p>All required licenses from DWS for the discharge into a watercourse or waterbody need to be in place.</p>	Prior to the commencement of construction.	Contractor	Weekly	Record keeping of any spills or pollution on site.

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removed from the water by settling out these solids in settlement ponds. The release of settled water back into the environment must be subject to the Project Manager's approval and support by the ECO.						
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5.8. Solid waste management


Impact management outcome: Wastes are appropriately stored, handled and safely disposed of at a recognized waste facility.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> All measures regarding waste management must be undertaken using an integrated waste management approach; Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided; A suitably positioned and clearly demarcated waste collection site must be identified and provided; The waste collection site must be maintained in a clean and orderly manner; Waste must be segregated into separate bins and clearly marked for each waste type; Staff must be trained in waste segregation; Bins must be emptied regularly; General waste produced onsite must be disposed of at recognized waste disposal sites/ recycling company; Hazardous waste must be disposed of at a registered waste disposal site; Certificates of safe disposal for general, hazardous and recycled waste must be maintained. 	Contractor	<p>Waste collection bins need to be strategically placed and readily available on site.</p> <p>Clearly marked bins must be placed to recycle the waste.</p> <p>Waste must be collected and removed from site on an, as and when required basis.</p>	Prior to commencement of construction, the bins will need to be strategically placed.	Contractor	Weekly	<p>Certificates of safe disposal.</p> <p>Record keeping of when waste is removed from site.</p>

5.9. Protection of watercourses

Impact management outcome: Pollution and contamination of the watercourse environment and erosion are-prevented.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance


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<ul style="list-style-type: none"> - All watercourses must be protected from direct or indirect spills of pollutants such as solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash and contaminated water or organic material resulting from the Contractor's activities; - In the event of a spill prompt action must be taken to clear the polluted or affected areas; - Where possible, no development equipment must traverse any seasonal or permanent wetland; - Development of permanent watercourse crossing must only be undertaken where no alternative access to tower position is available; - When working in or near any watercourse or wetland, the following environmental controls and consideration must be taken: <ul style="list-style-type: none"> a) River levels during the period of construction; b) During the execution of the Works, appropriate measures to prevent pollution and contamination of the riverine environment must be implemented e.g. including ensuring that construction equipment is well maintained; c) Where earthwork is being undertaken in close proximity to any watercourse, slopes must be stabilized using suitable materials, i.e. sandbags or geotextile fabric, to prevent sand and rock from entering the channel; and d) Appropriate rehabilitation and re-vegetation measures for the river banks must be implemented timeously. In this regard, the banks should be appropriately and incrementally stabilized as soon as development allows. 	Contractor	<p>All required licenses from DWS for the development of water crossings need to be in place before development of such crossings.</p> <p>Demarcation of a buffer zone around all watercourses to prevent access, where possible.</p>	Prior to the commencement of construction.	Contractor	Daily As and when required.	Record keeping of any spills or pollution into the watercourses.
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5.10. Vegetation management

Impact management outcome: Vegetation clearing is restricted to the authorized development footprint of the proposed infrastructure.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
General: <ul style="list-style-type: none"> Indigenous vegetation which does not interfere with the development must be left undisturbed; Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; Permits for removal must be obtained from the relevant CA prior to the cutting or clearing of the affected species, and they must be filed; The Environmental Report must confirm that all identified species have been rescued and replanted; Trees felled due to construction must be monitored and listed in the Audit Environmental Report; Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained; A daily register must be kept of all relevant details of herbicide usage; All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off if required in accordance with No-Go procedure in Section 5.3: No-Go areas. When working in or near any watercourse or wetland, the following environmental controls and consideration shall be taken. 	Contractor	<p>All required permits must be obtained from the CA before clearing or cutting of vegetation.</p> <p>All sensitive vegetation needs to be marked and demarcated prior to construction.</p> <p>Maintenance Plan must be implemented.</p>	Prior to the commencement of construction.	Contractor	<p>Weekly</p> <p>As and when required.</p>	<p>Filing of permits from the CA.</p> <p>Report to indicate rescued and replanted species.</p> <p>Record keeping of when herbicide has been sprayed.</p>

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<p>Servitude:</p> <ul style="list-style-type: none"> - Vegetation that does not grow high enough to cause interference with overhead transmission and distribution infrastructures, or cause a fire hazard to any plantation, should not be cut or trimmed unless it is growing in the road access area, and then only at the discretion of the Project Manager; - Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to the specifications. - Alien invasive vegetation should be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognized waste disposal facility; - Vegetation should be trimmed where it is likely to intrude on the minimum vegetation clearance distance (MVCD) or will intrude on this distance before the next scheduled clearance. MVCD is determined from SANS 10280; - Debris resulting from clearing and pruning must be disposed of at a recognized waste disposal facility, unless the landowners wish to retain the cut vegetation; - In the case of the development of new overhead transmission and distribution infrastructures, a one metre "trace-line" must be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along the "trace-line". Alternative methods of stringing which limit impact to the environment must always be considered. 						
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5.11. Protection of fauna

Impact management outcome: minimize disturbance to fauna.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present; The breeding sites of raptors and other wild bird species must be taken into consideration during the planning of the development programme; Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present; Nesting sites on existing parallel lines must be documented; Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; Bird guards and diverters must be installed on the new line as per the recommendations of the specialist; No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as No-Go areas. 	Contractor	<p>During the design phase consideration must be given to the breeding sites.</p> <p>Livestock and other animals need to be observed during construction phase to not interfere with the animals.</p> <p>Minimize the fragmentation of habitat for flora, fauna and avifauna.</p>	Prior to the commencement of construction	Contractor	Daily	Incident report must be kept.

5.12. Protection of heritage resources

Impact management outcome: impact to heritage resources is minimised.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in Section 5.3: No-Go areas; Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance; All work must cease immediately, if any human remains 	Contractor	Inspections during the excavations will provide evidence of heritage resources when encountered.	During the construction phase.	Contractor	Daily	Record keeping of inspections done.

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and/or at her archaeological, paleontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ paleontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time should be allowed to remove/ collect such material before development recommences.		All operations must cease if any material of heritage importance are uncovered.				
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5.13. Safety of the public

Impact management outcome: all precautions are taken where possible to minimize the risk of injury, harm or complaints.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.; All unattended open excavations must be adequately fenced or demarcated; Adequate protective measures must be implemented to prevent unauthorized access to and climbing of partly constructed towers and protective scaffolding; Ensure structures vulnerable to high winds are secured; Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. 	Contractor	Adequate demarcation of high risk areas need to be demarcated to prevent access.	<p>Prior to the commencement of construction.</p> <p>During the construction phase, if the conditions on site change.</p>	Contractor	Daily	Record keeping of any incidents.

5.14. Sanitation


Impact management outcome: clean and well maintained toilet facilities are available to all staff in an effort to minimize the risk of disease and impact to the environment.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Mobile chemical toilets are installed onsite if no other ablution facilities are available; The use of ablution facilities and or mobile toilets must be used at all times and no indiscriminate use of the veld for the purposes of ablutions must be permitted under 	Contractor	Ensure the adequate amount of ablution facilities is available for the workforce.	<p>Prior to the commencement of construction or on the day the construction commences, the</p>	Contractor	Daily	Record keeping of the servicing of the toilets.

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any circumstances; – Where mobile chemical toilets are required, the following must be ensured: <ul style="list-style-type: none"> a) Toilets are located no closer than 100 m to any watercourse or water body; b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause; c) No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordance with the EMP;. d) Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out; e) Toilets are emptied before long weekends and workers holidays, and must be locked after working hours; f) Toilets are serviced regularly and the ECO must inspect toilets to ensure compliance to health standards; – A copy of the waste disposal certificates must be maintained.		Ensure the ablution facilities are within reasonable distance from the operations.	ablution facilities must be available.			
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5.15. Prevention of disease

Impact management outcome: All necessary precautions linked to the spread of disease are taken.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – Undertake environmentally-friendly pest control in the camp area; – Ensure that the workforce is sensitized to the effects of sexually transmitted diseases, especially HIV AIDS; – The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area; – Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable; – Free condoms will be made available to all staff on site at central points; 	Contractor	<p>Informative brochures will be provided to all personnel.</p> <p>Informative posters will be visual within the contractor camp.</p>	<p>Prior to the commencement of construction, the posters will be erected inside the contractor camp.</p>	Contractor	Monthly	Register will be kept and signed when brochure have been received.

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<ul style="list-style-type: none"> – Medical support must be made available; – Provide access to Voluntary HIV Testing and Counselling Services. 						
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5.16. Emergency procedures


Impact management outcome: emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project; – The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation; – All staff must be made aware of emergency procedures as part of environmental awareness training; – The relevant local authority must be made aware of a fire as soon as it starts; – In the event of emergency necessary mitigation measures to contain the spill or leak must be implemented (see Hazardous Substances section 5.17). 	Contractor	<p>Emergency Response Action Plan need to be implemented.</p> <p>Emergency procedures need to be discussed in the awareness training.</p>	Prior to the commencement of construction.	Contractor	Monthly	<p>Record keeping of emergency incidents.</p> <p>Attendance registers from awareness training.</p>

5.17. Hazardous substances

Impact management outcome: safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – The use and storage of hazardous substances to be minimized and non-hazardous and non-toxic alternatives substituted where possible; – All hazardous substances will be stored in suitable containers as defined in the Method Statement; – Containers will be clearly marked to indicate contents, quantities and safety requirements; – All storage areas will be bunded. The bunded area will 	Contractor	<p>The storage area for hazardous materials needs to be demarcated.</p> <p>All Material Safety Data Sheets (MSDS)</p>	Prior to the commencement of construction.	Contractor	Daily	Record keeping of any incidents.

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<p>be of sufficient capacity to contain a spill / leak from the stored containers;</p> <ul style="list-style-type: none"> - An Alphabetical Hazardous Chemical Substance (HCS) control sheet will be drawn up and kept up to date on a continuous basis; - All hazardous chemicals that will be used on site will have Material Safety Data Sheets (MSDS); - All employees working with HCS will be trained in the safe use of the substance and according to the safety data sheet; - Employees handling hazardous substances/materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available; - The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowsters; - The tanks/bowsters must be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsters (110% statutory requirement plus an allowance for rainfall); - The floor of the bund must be sloped, draining to an oil separator; - Provision must be made for refueling at the storage area by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained; - All empty externally dirty drums must be stored on a drip tray or within a bunded area; - No unauthorized access into the hazardous substances storage areas shall be permitted; - No smoking must be allowed within the vicinity of the hazardous storage areas; - Adequate firefighting equipment must be made available at all hazardous storage areas; - Where refueling away from the dedicated refueling station is required, a mobile refueling unit must be used. Appropriate ground protection such as drip trays must be used; - An appropriately sized spill kit kept onsite relevant to the scale of the activity/s involving the use of hazardous 		<p>need to be in place for hazardous chemicals to be used on site.</p> <p>Firefighting equipment and emergency spills kits need to be readily available.</p> <p>All personnel working with HCS will require training in specific handling of such substances.</p>				
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substance must be available at all times; – The responsible operator must have the required training to make use of the spill kit in emergency situations; – In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to Section 5.7 for procedures concerning waste water management and 5.8 for solid waste management.						
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5.18. Workshop, equipment maintenance and storage

Impact management outcome: Soil, surface water and groundwater contamination is minimized.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
– Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area; – During servicing of vehicles or equipment, especially where emergency repairs are effected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. The relevant local authority must be made aware of a fire as soon as it starts; – Leaking equipment must be repaired immediately or be removed from site to facilitate repair; – Workshop areas must be monitored for oil and fuel spills; – Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available; – The workshop area must have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil/water separator where maintenance work on vehicles and equipment can be performed; – Water drainage from the workshop must be contained and managed in accordance Section 5.7: Waste water management.	Contractor	Maintenance of vehicles and equipment need to be scheduled on a routinely basis. Maintenance to take place in the workshop only, unless it is an emergency.	During the construction phase.	Contractor	Daily	Record keeping of all incidents and spills.

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5.19. Batching plants

Impact management outcome: Minimize spillages and contamination of soil, surface water and groundwater.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Concrete mixing must be carried out on an impermeable surface (such as on boards and/or within a bunded area with an impermeable surface) or make a hard surface and remove when done; Concrete mixing areas must be fitted with a containment facility for the collection of cement laden water. This facility must be impervious to prevent soil and groundwater contamination; Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains; A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted; Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licensed disposal facility; Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to Section 5.20: Dust emissions) Any excess sand, stone and cement must be removed or reused from site on completion of construction period and disposed at a registered disposal facility; Temporary fencing must be erected around batching plants in accordance with Section 5.5: Fencing and gate installation. 	Contractor	<p>Sites for batching plants need to be identified prior to the commencement of construction and lined with impervious material.</p> <p>Batching plants need to be demarcated to prevent access from unauthorized personnel.</p>	Prior to commencement of construction.	Contractor	Daily	Record keeping of all incidents.

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5.20. Dust Emissions

Impact management outcome: dust prevention measures are applied to minimize the generation of dust.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Take all reasonable measures to minimize the generation of dust as a result of project development activities to the satisfaction of the ECO; Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re-vegetated or stabilized as soon as is practically possible; Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present; During high wind conditions, the ECO will evaluate the situation and make recommendations as to whether dust damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level; Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; Vehicle speeds must not exceed 40km/h along dust roads or 20km/h when traversing unconsolidated and non-vegetated areas; Appropriate dust suppression measures must be used when dust generation is unavoidable e.g. Dampening with water; particularly during prolonged periods of dry weather in summer. Such measures must also include the use of temporary stabilizing measures (e.g. chemical soil binders, straw, brush packs, chipping); Straw stabilization must be applied at a rate of one bale/ 10 m" and harrowed into the top 100 mm of top material, for all completed earthworks; For significant areas of excavation or exposed ground, spray water or wet areas using trucks to minimize the spread of dust. 	Contractor	<p>Adequate dust suppression measures need to be implemented during times of high dust pollution.</p> <p>Prior to the commencement of construction, high risk areas for dust pollution need to be identified and closely monitored.</p>	During the construction phase, as and when required.	Contractor	Daily	Record keeping of when dust suppression measures have been implemented.


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5.21. Blasting

Impact management outcome: impact to the environment is minimized through a safe blasting practice.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Any blasting activity must be conducted by a suitably licensed blasting contractor; and Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site. 	Contractor	<p>Determine and draft a blasting schedule.</p> <p>Notify the surrounding landowners, emergency services and relevant personnel prior to such activity taking place.</p>	During the construction phase.	Contractor	After blasting took place.	Record keeping of blasting and cleaning fly rock from the surrounding areas such as roads, etc. outside the works areas.

5.22. Noise

Impact management outcome: To prevent unnecessary noise to the environment by ensuring that noise from development activity is mitigated.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, development must be limited to daylight hours. 	Contractor	Implement a working schedule to adhere to and be limited to normal work hours or daylight hours. .	During the construction phase.	Contractor	Daily	Record keeping of working hours.


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5.23. Fire prevention

Impact management outcome: Prevention of uncontrollable fires.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Designate smoking areas where the fire hazard could be regarded as insignificant; Firefighting equipment must be available on all vehicles located on site; The local Fire Protection Agency (FPA) must be informed of construction activities; Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; Two way swap of contact details between ECO and FPA. 	Contractor	<p>Fire prevention training during the awareness training.</p> <p>Firefighting equipment need to be readily available.</p>	During the construction phase.	Contractor	Daily	Record keeping of all incidents.

5.24. Stockpiling and stockpile areas

Impact management outcome: To reduce erosion and sedimentation as a result of stockpiling						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimize impacts to watercourses, wetlands and water bodies; All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; Stockpiles must not exceed 2 m in height; During periods of strong winds and heavy rain, the stockpiles should be covered with appropriate material (e.g. cloth, tarpaulin etc.); Where possible, sandbags (or similar) should be placed at the bases of the stockpiled material in order to prevent erosion of the material. 	Contractor	<p>Demarcate the stockpile areas to prevent unnecessary access.</p> <p>Stockpiling must take place in such a manner to prevent erosion.</p>	During the construction phase.	Contractor	Daily	Record keeping of disturbance to the stockpiles or incorrect stockpiling.

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5.25. Finalizing tower positions


Impact management outcome: No environmental degradation occurs as a result of the survey and pegging operations.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> No vegetation clearing must occur during survey and pegging operations; No new access roads must be developed to facilitate access for survey and pegging purposes; Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved areas; The surveyor is to demarcate (peg) access roads/tracks in consultation with ECO. No deviations will be allowed without the prior written consent from the ECO. 	Contractor	<p>No impacts on the environment are allowed during the finalizing of tower positions.</p> <p>Botanical specialist need to be consulted.</p>	Prior to the commencement of construction.	Contractor	None.	None.

5.26. Installation of foundations


Impact management outcome: No environmental degradation occurs as a result of the survey and pegging operations.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Batching of cement to be undertaken in accordance with Section 5.19: Batching; Residual cement must be disposed of in accordance with Section 5.8: Solid Waste Management. 	Contractor	Implementation methods are as per Section 5.8: Solid Waste Management and Section 5.19: Batching.	As per Section 5.8: Solid Waste Management and Section 5.19: Batching.	Contractor	As per Section 5.8: Solid Waste Management and Section 5.19: Batching.	As per Section 5.8: Solid Waste Management and Section 5.19: Batching.

5.27. Assembly and erecting towers

Impact management outcome: No environmental degradation occurs as a result of assembly and erecting of towers.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance

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<ul style="list-style-type: none"> – Prior to erection, assembled towers and tower sections must be stored on elevated surface (suggest wooden blocks) to minimize damage to the underlying vegetation; – In sensitive areas, tower assembly must take place off-site or away from sensitive positions; – The crane used for tower assembly must be operated in a manner which minimizes impact to the environment; – The number of crane trips to each site must be minimized; – Wheeled cranes must be utilized in preference to tracked cranes; – Consideration must be given to erecting towers by helicopter or by hand where it is warranted to limit the extent of environmental impact; – Access to tower positions to be undertaken in accordance with access requirements specified in Section 8.4: Access Roads; – Vegetation clearance to be undertaken in accordance with general vegetation clearance requirements specified in Section 8.10: Vegetation clearing; – No levelling at tower sites must be permitted unless approved by the Development Project Manager or Developer Site Supervisor; – Topsoil must be removed separately and stored for later use during rehabilitation of such tower sites; – Topsoil must be stored in heaps not higher than 2m to prevent destruction of the seed bank within the top soil; – Excavated slopes must be no greater than 1:3, but where this is unavoidable, appropriate measures must be undertaken to stabilize the slopes; – Fly rock from blasting activity must be minimized and any pieces greater than 150 mm falling beyond the Working Area, must be collected and removed; – Only existing disturbed areas are utilized as spoil areas; – Drainage is provided to control groundwater exit gradient with the spill areas such that migration of fines is kept to a minimum; – Surface water runoff is appropriately channeled through or around spoil areas; – During backfilling operations, care must be taken not to dump the topsoil at the bottom of the foundation and 	Contractor	<p>Identify access to tower positions with the least impact on the environment.</p> <p>Consider equipment which will have minimal impact on the environment.</p> <p>Topsoil to be stockpiled separately and backfilled at the top.</p> <p>Disturbed areas to be used, where possible, for stockpiling, spoil areas and storing of material.</p> <p>Stormwater management plan need to be implemented.</p>	Prior to the assembly and erecting of each tower.	Contractor	Daily	Record keeping of vegetation cleared.

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then put spoil on top of that; – The surface of the spoil is appropriately rehabilitated in accordance with the requirements specified in Section 5.29: Landscaping and rehabilitation; – The retained topsoil must be spread evenly over areas to be rehabilitated and suitably compacted to effect re-vegetation of such areas to prevent erosion as soon as construction activities on the site is complete. Spreading of topsoil must not be undertaken at the beginning of the dry season.						
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5.28. Stringing


Impact management outcome: No environmental degradation occurs as a result of stringing						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
– Where possible, previously disturbed areas must be used for the siting of winch and tensioner stations. In all other instances, the siting of the winch and tensioner must avoid No-Go areas and other sensitive areas; – The winch and tensioner station must be equipped with drip trays in order to contain any fuel , hydraulic fuel or oil spills and leaks; – Refueling of the winch and tensioner stations must be undertaken in accordance with Section 5.17: Hazardous substances; – In the case of the development of overhead transmission and distribution infrastructure, a one metre "trace-line" may be cut through the vegetation for stringing purposes only and no vehicle access must be cleared along "trace-lines". Vegetation clearing must be undertaken by hand, using chainsaws and hand held implements, with vegetation being cut off at ground level. No tracked or wheeled mechanized equipment must be used; – Alternative methods of stringing which limit impact to the environment must always be considered e.g. by hand or by using a helicopter; – Where the stringing operation crosses a public or private road or railway line, the necessary scaffolding/protection	Contractor	Notice to landowners must be provided a minimum of 10 days prior to stringing commences. Drip trays are required for the equipment used. Consider alternative stringing methods which will have minimal impact on the environment.	During the construction phase.	Contractor	During the planning phase for stringing.	Record keeping of vegetation cleared, when and where.

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<p>measures must be installed to facilitate access. If, for any reason, such access has to be closed for any period's) during development, the persons affected must be given reasonable notice, in writing;</p> <ul style="list-style-type: none"> No services (electrical distribution lines, telephone lines, roads, railways, lines, pipelines, fences, etc.) must be damaged because of stringing operations. Where disruption to services is unavoidable, persons affected must be given reasonable notice, in writing; Where stringing operations cross cultivated land, damage to crops is restricted to the minimum required to conduct stringing operations, and reasonable notice (10 work days minimum), in writing, must be provided to the landowner; Necessary scaffolding protection measures must be installed to prevent damage to the structures supporting certain high value agricultural areas such as Vineyards, orchards, nurseries. 						
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5.29. Temporary closure of site


Impact management outcome: Minimize the risk of environmental impact during periods of site closure greater than five days.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> Bunds must be emptied (where applicable); Hazardous storage areas must be well ventilated; Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service; Emergency and contact details displayed must be displayed; Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel; Night hazards such as reflectors, lighting, traffic signage etc. must have been checked; Fire hazards identified and the local authority must have been notified of any potential threats e.g. large brush stockpiles, fuels etc.; Structures vulnerable to high winds must be secured; 	Contractor	Implement a temporary closure plan to ensure all aspects be addressed and accounted for.	Prior to the temporary closure.	Contractor	During closures.	Record keeping of all maintenance and services.

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<ul style="list-style-type: none"> – Wind and dust mitigation must be implemented; – Cement and materials stores must have been secured; – Toilets must have been emptied and secured; – Refuse bins must have been emptied and secured; – Drip trays must have been emptied and secured. 						
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5.30. Landscaping and rehabilitation

Impact management outcome: No environmental degradation occurs as a result of the survey and pegging operations.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for Implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> – All areas disturbed by construction activities must be subject to landscaping and rehabilitation; – All spoil and waste will be disposed to a registered waste site and certificates of disposal provided; – All slopes in excess of 2% (1:50) must be contoured in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; – All slopes in excess of 12% (1:8.3) must be terraced in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; – Berms that have been created should have a slope of 1:4 and be replanted with indigenous species and grasses; – Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping to a minimum depth of 600 mm; – Rehabilitation of tower sites and access roads outside of farmland; – Indigenous species will be used for replanting; – Stockpiled topsoil must be used for rehabilitation (refer to Section 5.23: Stockpiling and stockpiled areas); – Stockpiled topsoil will be evenly spread so as to facilitate seeding and minimize loss of soil due to erosion; – Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; 	Contractor	Rehabilitation plan need to be implemented to ensure the exposed areas due to construction activities are rehabilitated and returned to previous state or better.	<p>After construction has taken place and materials and equipment have been moved.</p> <p>As and when required.</p>	Contractor	Weekly	<p>Photographic evidence of the rehabilitation.</p> <p>Record keeping of when rehabilitation has taken place.</p>

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<ul style="list-style-type: none"> - Subsoil must be ripped before topsoil is placed; - The project must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; - Where impacted through construction related activity, all sloped areas must be stabilized to ensure proper rehabilitation is effected and erosion is controlled as per the instruction from the ECO; - Sloped areas stabilized using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; - Where required, re-vegetation can be enhanced using a vegetation seed mixture as described below. A mixture of seed can be used provided the mixture is carefully selected to ensure the following: <ul style="list-style-type: none"> a) Annual mid perennial plants are chosen; b) Pioneer species are included; c) Species chosen must grow in the area feasible to grow; d) Root systems must have a binding effect on the soil; e) The final product should not cause an ecological imbalance in the area. 						
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6. ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

To ensure accountable and demonstrated implementation of the EMPr, a number of reporting systems, documentation controls and compliance mechanisms must be in place for all overhead electricity transmission and distribution infrastructure projects as a minimum requirement.

6.1.Document control/ Filing system

The holder of the EA/client is solely responsible for the upkeep and management of the EMPr file. At a minimum, all documentation detailed below will be stored in the EMPr file. A hard copy of all documentation shall be tiled, while an electronic copy may be kept where relevant. A duplicate file will be maintained in the office of the DSS (where applicable). This duplicate file will be the responsibility of the ECO's and must remain current and up-to-date. The filing system must be updated and relevant documents added as required. The EMPr file must be made available at all times on request by the CA on terms of NEMA EIA regulation, or other relevant authorities. The EMPr file will form part of any environmental audits undertaken as prescribed in the EIA Regulations.


6.2.Documentation to be available

At the outset of the project the following documents shall be placed in the filing system and be accessible at all times:

- Full copy of the signed EA from the CA in terms of NEMA, granting approval for the development or expansion;
- Copy of the generic and site specific EMPr as well as any amendments thereof;
- Copy of declaration of implementing generic EMPr and subsequent approval of site specific EMPr and amendments thereof;
- All method statements;
- Completed environmental checklists;
- Minutes and attendance register of environmental site meetings;
- An up-to-date environmental incident log;
- A copy of all instructions or directives issued;
- A copy of all corrective actions signed off. The corrective actions must be filed in such a way that a clear reference is made to the non-compliance record;
- Complaints register.

6.3.Weekly Environmental Checklist

The ECO's are required to complete a Weekly Environmental Checklist, the format of which is to be agreed prior to commencement of the activity. The ECOs are required to sign and date the checklist, retain a copy in the EMPr file and submit a copy of the completed checklist to the DSS on a weekly basis.

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The checklists will form the basis for the Monthly Environmental Reports. Copies of all completed checklists will be attached as Annexures to the Environmental Audit Report as required in terms of the EIA regulations, 2014.

6.4.Environmental site meetings

Minutes of the environmental site meetings shall be kept. The minutes must include an attendance register and will be attached to the Monthly Report that is distributed to attendees. Each set of minutes must clearly record "Matters for Attention" that will be reviewed at the next meeting.

6.5.Required Method Statements


The method statement will be done in such detail that the ECO's are enabled to assess, whether the contractor's proposal is in accordance with the EMPr.

The method statement shall cover applicable details with regard to:

- Development procedures;
- Materials and equipment to be used;
- Getting the equipment to and from site;
- How the equipment/ material will be moved while on site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- Timing and location of activities;
- Compliance / non-compliance with the EMPr; and
- Any other information deemed necessary by the ECOs.

Unless indicated otherwise by the Project Manager, the Contractor shall provide the following method statements to the Project Manager no less than 14 days prior to the commencement date of the activity:

- Site establishment - Camps, Lay-down or storage areas, satellite camps, infrastructure;
- Batch plants;
- Workshop or plant servicing;
- Handling, transport and Storage of Hazardous Chemical Substances;
- Vegetation management - Protected, clearing, aliens, felling;
- Access management - Roads, gates, crossings etc.;
- Fire plan;
- Waste management (all waste streams);
- Transport, storage, segregation, classification, disposal
- Social interaction complaints management, compensation claims, access to properties etc.;
- Water use (source, abstraction and disposal) , access and all related information, crossings and mitigation;
- Emergency preparedness - Spills, training, other environmental emergencies;

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- Dust and noise management methodologies;
- Fauna interaction and risk management - only if the risk was identified - wildlife interaction especially on game farms; and
- Heritage and paleontology management.

The ECO shall ensure that the contractors perform in accordance with these method statements.

6.6.Environmental Incident Log (Diary)

The ECO is required to maintain an up-to-date and current Environmental Incident Log (environmental diary). The Environmental Incident Log is a means to record all environmental incidents and/or all non-compliance notice would not be issued. An environmental incident is defined as:

- Any deviation from the listed impact management actions (listed in this EMPr) that may be addressed immediately by the ECOs. (For example a contractor's staff member littering or a drip tray that has not been emptied);
- Any environmental impact resulting from an action or activity by a contractor in contravention of the environmental stipulations and guidelines listed in the EMPr Which as a single event would have a minor impact but which if cumulative and continuous would have a significant effect (for example no toilet paper available in the ablutions for an afternoon); and
- General environmental information such as road kills or injured wildlife.

The ECO are to record all environmental incidents in the Environmental Incident Log. All incidents regardless of severity must be reported to the Developer. The Log is to be kept in the EMPr file and at a minimum the following will be recorded for each environmental incident:


- The date and time of the incident;
- Description of the incident;
- The name of the Contractor responsible;
- The incident must be listed as .significant or minor;
- If the incident is listed as significant, a non-compliance notice must be issued, and recorded in the log;
- Remedial or corrective action taken to mitigate the incident; and
- Record of repeat minor offences by the same contractor or staff member.

The Environmental Incident Log will be captured in the EAR.

6.7.Non-compliance

A non-compliance notice will be issued to the responsible contractor by the ECO's via the DSS or Project Manager. The non-compliance notice will be issued in writing; a copy filed in the EMPr file and will at a minimum include the following:

- Time and date of the non-compliance;
- Name of the contractor responsible;

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- Nature and description of the non-compliance;
- Recommended/ required corrective action; and
- Date by which the corrective action to be completed.
- The contractors shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the development site pertaining to the environment shall be recorded in a dedicated register and the response noted with the date and action taken. The ECO should be made aware of any complaints. Any non-compliance with the agreed procedures of the EMPr is a transgression of the various statutes and laws that define the manner by which the environment is managed. Failure to redress the cause shall be reported to the relevant CA for them to deal with the transgression, as it deems fit. The contractor is deemed not to have complied with the EMPr if, inter alia, There is a deviation from the environmental conditions, management outcomes and actions activities, as approved in generic and site specific EMPr as relevant as set out in the EMPr, which deviation has, or may cause, an environmental impact.

6.8. Corrective action records

For each non-compliance notice issued, a documented corrective action must be recorded. On receiving a non-compliance notice from the Developer's Site Supervisor, the contractor's CEO will ensure that the corrective actions required take place within the stipulated timeframe. On completion of the corrective action the CEO is to issue a Corrective Action Report in writing to the ECOs. If satisfied that the corrective action has been completed, the ECOs are to sign-off on the Corrective Action Report, and attach the report to the non-compliance notice in the EMPr file. A corrective action is considered complete once the report signed off by the ECOs.

6.9. Photographic record


A digital photographic record will be kept. The photographic record will be used to show before, during and post rehabilitation evidence of the project as well used in cases of damages claims if they arise. Each image must be dated and a brief description note attached.

The Contractor shall:

1. Allow the ECOs access to take photo graphs of all areas, activities and actions.

The ECO's shall keep an electronic database of photographic records which will include:

1. Pictures of all areas designated as work areas, camp areas, development sites and storage areas taken before these areas are set up;

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2. All bunding and fencing;
3. Road conditions and road verges;
4. Condition of all farm fences;
5. Topsoil storage areas;
6. All areas to be cordoned off during construction;
7. Waste management sites;
8. Ablution facilities (inside and out);
9. Any non-conformances deemed to be "significant";
10. All completed corrective actions for non-compliances;
11. All required signage;
12. All areas before, during and post rehabilitation; and
13. Include relevant photographs in the Final Environmental Audit Report.

6.10. Complaints register


The ECOs shall keep a current and up-to-date complaints register. The complaints register is to be a record of all complaints received from communities, stakeholders and individuals. The Complaints Record shall:

1. Record the name and contact details of the complainant;
2. Record the time and date of the complaint;
3. Contain a detailed description of the complaint;
4. Where relevant and appropriate, contain photographic evidence of the complaint or damage (ECOs to take relevant photographs); and
5. Contain a copy of the ECOs written response to each complaint received and keep a record of any further correspondence with the complainant. The ECO's written response will include a description of any corrective action to be taken and must be signed by the Contract or, ECO and affected party. Where a damage claim is issued by the complainant, the ECOs shall respond as described in (Section 6.11) below.

6.11. Claims for damages

In the event that a Claim for Damages is submitted by a community, landowner or individual, the ECOs shall:

1. Record the full detail of the complaint as described in (section 4.10) above;
2. The ECOs will evaluate the claim and associated damage and submit the evaluation to the Senior Site Representative for approval;
3. Following consideration by the DPM, the claim is to be resolved and settled immediately, or the reason for not accepting the claim communicated in writing to the claimant. Should the claimant not accept this, the ECO shall, in writing report the incident to the Developer's negotiator and legal department; and
4. A formal record of the response by the ECOs to the claimant as well as the rectification of the method of making payments not amount will be recorded in the EMPr file.

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6.12. Interactions with affected parties

Open, transparent and good relations with affected landowners, communities and regional staff are an essential aspect to the successful management and mitigation of environmental impacts.

The ECOs shall:

1. Ensure that all queries, complaints and claims are dealt within an agreed timeframe;
2. Ensure that any or all agreements are documented, signed by all parties and a record of the agreement kept in the EMPr file;
3. Ensure that a complaints telephone numbers are made available to all landowners and affected parties; and
4. Ensure that contact with affected parties is courteous at all times;

6.13. Environmental Monitoring

Internal Environmental Audits of the activity and implementation of the EMPr will be undertaken by the ECO. The findings and outcomes of these audits will be recorded in the EMPr file. The environmental audits and associated reports must be conducted and submitted to the CA at intervals as indicated in the EA.


The ECOs must prepare a monthly EAR. The report will be tabled as the key point on the agenda of the Environmental Site Meeting. The Report is submitted for acceptance at the meeting and the final report will be circulated to the Project Manager and filed in the EMPr file. At a frequency determined by the Environmental Authorisation, the ECOs shall submit the monthly reports to the Competent Authority in terms of NEMA. At a minimum the Monthly report is to cover the following:

- Weekly Environmental Checklists;
- Deviations and non-compliances with the checklists;
- Non-compliances issued;
- Completed and reported corrective actions;
- Environmental Monitoring;
- General environmental findings and actions; and
- Minutes of the Bi-monthly Environmental Site Meetings.

6.14. Final environmental audits

On final completion of the entire activity, the ECOs are required to prepare a final EAR. The report is to be submitted to the CA for acceptance and approval. The environmental report must comply with Appendix 7 of the EIA Regulations, 2014.

- Details of the independent person who prepared the report;
- Details of the expertise of independent person that compiled the report;
- A declaration that the independent auditor is independent in a form as may be specified by the CA;

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- An indication of the scope of, and the purpose for which, the environmental audit report was prepared;
- A description of the methodology adopted in preparing the environmental audit report;
- An indication of the ability of the EMPr, and where applicable, the closure plan to.


Sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on-going basis;

Sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and

Ensure compliance with the provisions of EA, EMPr and where applicable, the closure plan;


- A description of any assumptions made, and any uncertainties or gaps in knowledge;
- A description of any consultation process that was undertaken during the course of carrying out the EAR;
- A summary and copies of any comments that were received during any consultation process;
- Any other information requested by the CA.

Submission of the final EAR to the CA will indicate the end of the entire activity.


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7. Appendix 1 – Handling of waste

	Waste Type	Disposal method
1.	Asbestos	<p>The management, handling and disposal of asbestos and ACM must be done in accordance with the Asbestos regulation, 2001.</p> <ul style="list-style-type: none"> (a) All asbestos waste needs to be placed in containers that will prevent the likelihood of exposure during handling. (b) All vehicles, re-usable containers or any other similar articles which have been in contact with asbestos waste are cleaned and decontaminated after use, in such a way that they do not cause a hazard inside or outside the workplace; (c) All asbestos waste which can cause exposure, is disposed of only on sites specifically designated for this and in such a manner that it does not cause a hazard inside or outside the site; (d) All persons involved in the collection, transport and disposal of asbestos waste, who may be exposed to that waste, are provided with personal protective equipment; and (e) Where the services of a contractor for the disposal of asbestos waste are used, a provision is incorporated into the contract stating that the contractor shall also comply with the provisions of the Asbestos Regulations.
2.	Neon lights	<p>The following will be required for disposal of this material:</p> <ul style="list-style-type: none"> • Neon light tubes need to be broken under controlled condition to render it physically safe and release or recover the mercury containing substances. • Storage of the neon lights in an appropriate container which would need to be removed if and when required. • The lights will need to be crushed and stored within a drum. If the drum reaches full capacity, the drum must be sealed and transported to a hazardous landfill site for safe disposal.
3.	Lead	<p>The management, handling and disposal of lead must be done in accordance with the Lead regulation, 2001.</p> <ul style="list-style-type: none"> (a) Recycle all lead waste, but not into non-lead production processes; (b) Ensure that all collected lead waste is placed into containers that will prevent the likelihood of exposure during handling; (c) Ensure that all vehicles, re-usable containers and covers which have been in contact with lead waste are cleaned and decontaminated after

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		<p>use, in such a way that such vehicles, containers or covers do not cause a hazard inside or outside the premises concerned;</p> <p>(d) Ensure that all lead waste that can cause exposure to lead, is disposed of only on sites specifically designated for this purpose in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989) and the National Environmental Management Act, 1998 (Act No. 107 of 1998), and in such a manner that it does not cause a hazard inside or outside the site concerned;</p> <p>(e) Ensure that all persons involved in the collection, transport and disposal of lead waste and who may be exposed to that waste, are provided with suitable personal protective equipment; and</p> <p>(f) Ensure that, in cases where the services of a waste disposal contractor are used, a provision is incorporated into the contract stating that the contractor too shall comply with the provisions of these Regulations.</p>
4.	Oil	<ul style="list-style-type: none"> Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Collect and reclaim or dispose of material in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations
5.	Ceramics	<ul style="list-style-type: none"> If material cannot be returned to process or salvage, dispose of in accordance with applicable regulations. This product should be disposed of in suitable landfill sites in accordance with local governmental / municipal regulations.
6.	Steel	<ul style="list-style-type: none"> Metal should first be reused or recycled before disposal to landfill is considered. Waste must be disposed of in accordance with applicable regulations.
7.	Copper	<ul style="list-style-type: none"> Metal should first be reused or recycled before disposal to landfill is considered. If the material cannot be returned to process or salvage, dispose of in accordance with applicable regulations.
8.	Rubber	<ul style="list-style-type: none"> Dispose of waste and residues in accordance with applicable requirements. No specific disposal method is required.
9.	Creosote	<ul style="list-style-type: none"> Dispose in accordance with all applicable regulations.

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		<ul style="list-style-type: none"> Treated wood should not be burned in open fires or in stoves, fireplaces or residential boilers, because toxic chemicals may be produced as part of the smoke and ashes. Treated wood from commercial or industrial use (e.g., construction sites) may be burned only in commercial or industrial incinerators or boilers in accordance with regulations.
10.	PVC	<ul style="list-style-type: none"> Disposal on registered landfill site in accordance to applicable regulations.

Description	Name	Designation	Signature
Compiled by	Christelle Greyling	Environmental Consultant	
Approved by	Marnus Lyon	Managing Director	

**ANNEXURE 3:
EPWP REPORTING**



**TEMPLATE FOR REPORTING ON EPWP PROJECTS FOR THE
2024/2025 FINANCIAL YEAR**

This questionnaire is designed to verify information on socio-economic Key Performance Indicators (KPI's) of the Integrated National Electrification Programme (INEP) in Municipalities and Eskom per project. The information you provide will be used only for this purpose and will be treated in strict confidence.

SOCIO-ECONOMIC KPI's TARGETS

Temporary Employment	90% of the total number of people employed
Permanent Employment	10% of the total number of people employed
Youth Employment (18 to 35yrs)	55% of the total number of people employed
Women employment (36 yrs and above)	60% of the total number of people employed
Employment of people with special needs	2% of the total number of people employed
Men Employment (36 yrs and above)	18% of the total number of people employed

A worker may not be paid less than the Minimum EPWP wage rate of R92.31 per day. This will be adjusted annually.

1. Provinces Please tick X in the appropriate box	Eastern Cape	Free State	Gauteng	KwaZulu Natal	Limpopo
	Mpumalanga	Northern Cape	North West	Western Cape	

2. Implementing Agencies' Identification				
Reporting month				
Responsible person			Contact	
Designation				
Municipality Name			Municipal code	
District Municipality Name				
Project Name				
Type of project	Electrification of Households	Bulk Infrastructure	Electrification of School	Farm-Worker Houses
Approved Project budget				
Project start date			Project end date	
Type of Municipal Area	Metropolitan	District	Local	
Area where project is located	Rural	Urban Formal	Urban Informal	Farm

Official Stamp

**Municipal Manager /
Divisional Capital Programme Manager**
Date: _____

The service providers for _____ is appointed.

3. Financial Expenditure to date			
How much is the allocated project budget?- (as per contractual agreement)			
How much money have you received from the Department of Energy? (transferred capital)			
How much is the actual expenditure?			
How much went to the following?	BBBEE	BWO	SMME
How much is the minimum daily wage for people employed in projects?			
Total number of person-days at work?			

4. Company Profile.	
How many Black Economic Empowerment (BEE) companies were utilised?	
How many of this BEE companies are Black Women Owned (BWO)?	
How many Small Micro-medium Enterprises (SMME) companies were utilised?	
How many of the SMMEs are Black Women Owned companies (BWO)?	

5. Local People Employment Distribution.		Youth(18-35yrs)		Adults(36yrs+)				
		Male	Female	Men	Women			
How many people are employed permanently?								
How many people are employed temporarily?								
How many people with special needs (disabled)?								
How many youth are employed according to the following age range?	18-22yrs	23-27yrs		28-32yrs		33-35yrs		
	male	female	male	female	male	female	male	female

6. Learnerships	Youth(18-35yrs)		Adults(36yrs+)	
	Male	Female	Men	Women
How many people received learnerships from the project?				

7. Job Training	Youth (18-35)yrs		Adult (36yrs+)		People with special needs	
	Male	Female	Male	Female	Youth	Adults
How many people received accredited training?						
How many people received non-accredited training?						
How many person-days of accredited training received?						
How many person-days of non-accredited training received?						

8. Were there any challenges associated with the collection of EPWP/socio-economic indicators information? (If yes, please indicate)

.....

.....

9. INFORMATION REGARDING THE COMPANIES THAT WERE UTILISED TO IMPLEMENT THE ELECTRIFICATION PROJECTS

[illegible]

**ANNEXURE 4:
DRAWINGS**



LEGEND		
CODE	DESCRIPTION	DGN NOS
0****	POLE, CONCRETE 11M LONG (8,5 kV)	1120
1****	POLE, CONCRETE 11M LONG (8,5 kV)	1710
2****	POLE, CONCRETE 11M LONG (10 kV)	1714
3****	POLE, CONCRETE 11M LONG (10 kV)	1710 & 1716
4****	POLE, CONCRETE 11M LONG (17 kV)	1745
5****	MV-INT	
6****	MV-STR	
7****	MV-STR	
8****	MV-TERM	
9****	MV-T-OFF	1681
10****	LV-INT	
11****	LV-TERM	
12****	LV-T-OFF(INT)	1140
13****	100kVA 11kV/400V Star P 1861	
14****	TR H Pole (100/200kVA) (10-17kV)	
15****	MV 3 Phase Staggered Vertical (600mm Spacing) 0 Intermediate	
16****	MV 3 Phase Staggered Vertical (600mm Spacing) 1-30 Strain	
17****	MV 3 Phase Staggered Vertical (600mm Spacing) Terminal	
18****	MV 3 Phase Delta / 2x2,5m Wooden x-arm 61-90 Strain	
19****	MV 3 Phase Vertical (600mm Spacing) 1-Off	
20****	LV ABC 3 Phase Sup 0-30	
21****	LV ABC 3 Phase Term	
22****	LV ABC 3 Phase T from Int	

DEPTH	10kV POLE	10kV POLE	10kV POLE	10kV POLE	STAY ROD
WIDTH	1,2	1,2	1,2	1,2	1,2
HEIGHT	0,6	0,6	0,6	0,6	0,6
DEPTH	1,0	1,0	1,5	1,5	2,0
EXCAVATION	2,75	1,44	1,29	1,08	1,44
ADD BARGE OF CONCRETE TO EXC. SIDE	4	2	1	1	2

EXCAVATION SCHEDULE

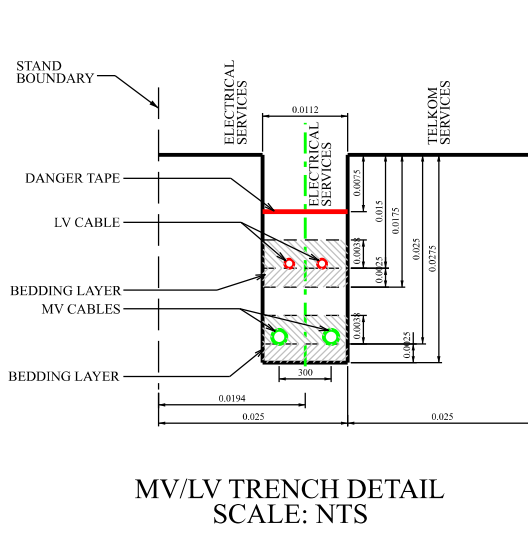
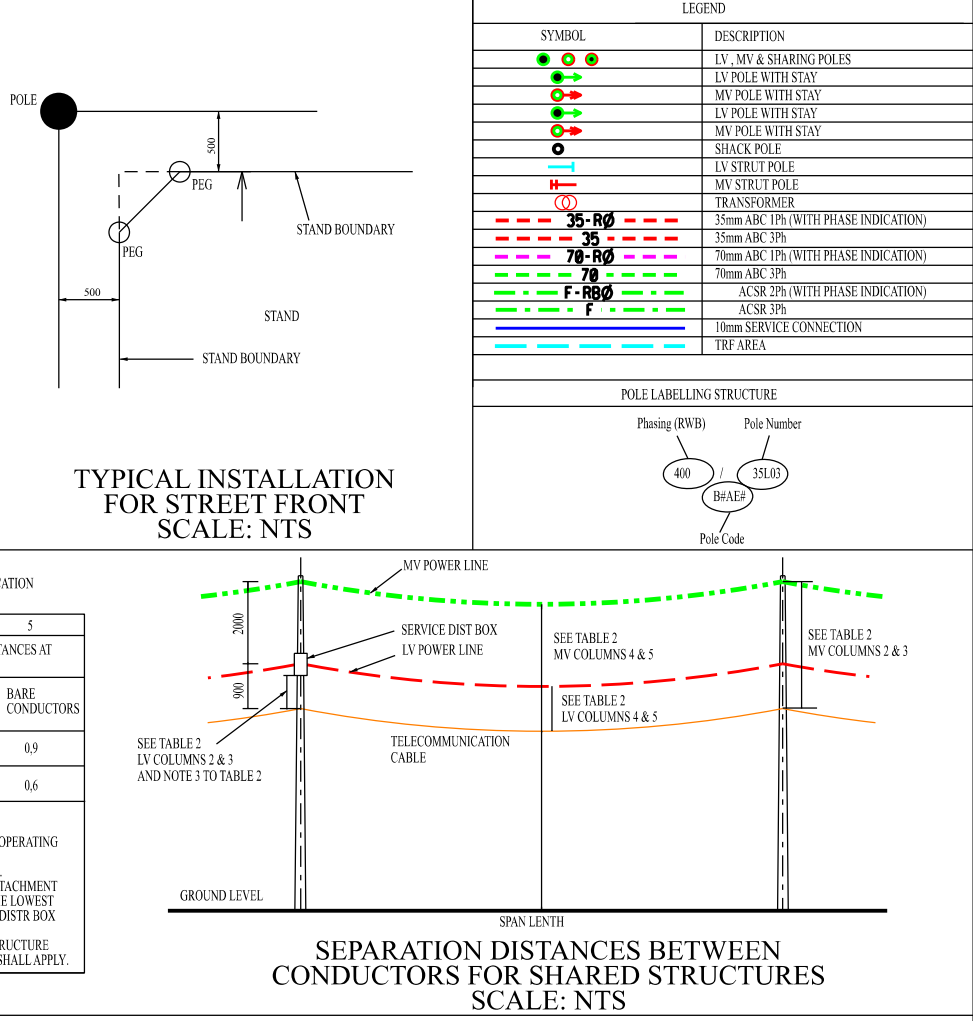


TABLE 2 SEPARATION DISTANCES BETWEEN POWER CONDUCTORS AND TELECOMMUNICATION CABLES THAT ARE ATTACHED TO SHARED STRUCTURES				
VOLTAGE LEVEL	SEPARATION DISTANCES AT ATTACHMENT POINTS - m		SEPARATION DISTANCES AT MID-SPAN - m	
	INSULATED CONDUCTORS (SEE NOTE 1)	BARE CONDUCTORS	INSULATED CONDUCTORS	BARE CONDUCTORS
MV	0,9	2,0	0,2	0,9
LV	0,9	0,9	0,2	0,6

NOTES:
1. THESE SEPARATION DISTANCES ARE THE MINIMUM AND APPLY UNDER ALL OPERATING AND ENVIRONMENTAL CONDITIONS.
2. FOR WET AND DRY WEATHER, THE TELECOMMUNICATION CABLE AND THE LOWEST POINT OF THE POWER CONDUCTOR OR THE LOWEST POINT OF THE SERVICE DISTRIB. BOX SHOULD BE AT THE SAME LEVEL.
3. IF A BARE TERMINATION, THE BARE CONDUCTOR SEPARATION DISTANCE SHALL APPLY.



- NOTES:
1. THE CONTRACTOR MUST ATTEMPT TO CONSTRUCT THE OVERHEAD LINES ALONG THE BOUNDARIES OF THE STANDS. LINES ENCRACING MORE THAN 2m FROM THE STAND BOUNDARY MUST BE REDIRECTED WITH ADDITIONAL POLES.
 2. THE CONTRACTOR WILL BE ISSUED WITH A SURVEYOR GENERAL DRAWING WHICH MUST BE ON SITE AT ALL TIMES AND MUST BE USED TO SURVEY THE LINE ROUTE.
 3. ALL SURVEYOR PEGS MUST BE TREATED WITH CARE AND THE CONTRACTOR WILL NOT BE PERMITTED TO REMOVE ANY PEG. PEGS REMOVED MUST BE RE-INSTALLED BY A PROFESSIONAL SURVEYOR.
 4. THE MINIMUM GROUND CLEARANCE FOR LV CONDUCTOR ALONG STAND BOUNDARIES IS 3,9m AND AT ROAD CROSSINGS 5,7m.
 5. THE NETWORK IS DESIGNED TO SHARE STRUCTURES, REQUIRING 900mm CLEARANCE ON ALL ATTACHMENT POINTS. POLE TOP BOXES MUST THEREFORE BE INSTALLED AS HIGH AS POSSIBLE ON THE LV POLES.
 6. ALL NEUTRALS ON MULTI PHASE CIRCUITS MUST BE FERRULED OR SOLDERED.

TOTAL HOUSES:	63
TOTAL CONNECTIONS:	63
ADMD:	2,5 kVA/UNIT

DATE:	REVISION:	DRAWN:	REV. NO.
TENDER ISSUED FOR TENDER PURPOSES ONLY			
As-Built	DATE:		
Construction	DATE:	2024-11-01	
Tender	DATE:		
Approval	DATE:		
Information	DATE:		
Planning	DATE:		
ISSUED FOR:			
THIS DRAWING IS ISSUED TO THE RECIPIENT FOR A PARTICULAR PURPOSE, IN THE UNDERSTANDING THAT THIS DRAWING SHALL NOT BE USED FOR ANY OTHER PURPOSE OTHER THAN THAT FOR WHICH IT WAS SPECIFICALLY ISSUED AND TO WHICH IT SPECIFICALLY REFERS.			
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PO Box 3925 - VANDERBULPARK - 1900

HLALANIKAHLE EXT 3
ELECTRIFICATION (ERF 1975,1976)

APPROVED:
C DE BEER P: Tech Eng
(201770089)

DESIGN:
MGM MONGWE (B Tech Eng)

SCALE:
1 : 1500 (A1)

DRAWING NUMBER: SHEET 01 OF 01

VE 2001-2-RETIC-ERF1975,1976

DRAWN:
MGM MONGWE (B Teng Eng)

DATE:
09 SEPTEMBER 2024

REVISION:

0



LEGEND		
CODE	DESCRIPTION	DCN NOS
*****	POLE, CONCRETE 11M LONG (8.5 kN)	1120
*****	POLE, CONCRETE 11M LONG (8.5 kN)	1710
*****	POLE, CONCRETE 11M LONG (8 kN)	1714
*****	POLE, CONCRETE 11M LONG (8 kN)	1710 & 1716
*****	POLE, CONCRETE 11M LONG (8.7 kN)	1745
*****	MV-INT	
*****	MV-STR	
*****	MV-STR	
*****	MV-TERM	
*****	MV-T-OFF	
*****	LV-INT	1681
*****	LV-TERM	
*****	LV-T-OFF(INT)	1140
*****	100kVA 11kV/400V Star P 1861	
1861	TR H Pole (100/200kVA (6-11kV)	
1710	MV 3 Phase Staggered Vertical (600mm Spacing) 0 Intermediate	
1714	MV 3 Phase Staggered Vertical (600mm Spacing) 1-30 Strain	
1716	MV 3 Phase Staggered Vertical (600mm Spacing) Terminal	
1745	MV 3 Phase Delta / 2x2.5m Wooden x-arm 61-90 Strain	
1801	MV 3 Phase Vertical (600mm Spacing) T-Off	
1100	LV ABC 3 Phase Sup 0-30	
1120	LV ABC 3 Phase Term	
1140	LV ABC 3 Phase T from Int	

	1st POLE	2nd POLE	3rd POLE	4th POLE	5th POLE
WIDTH	1.2	1.2	1.2	1.2	1.2
HEIGHT	0.6	0.6	0.6	0.6	0.6
DEPTH	1.0	1.0	1.5	1.5	2.0
EXCAVATION	2.75	1.44	1.29	1.08	1.44
ADD BASE OF CONCRETE TO EXC. SO	4	2	1	1	2

EXCAVATION SCHEDULE

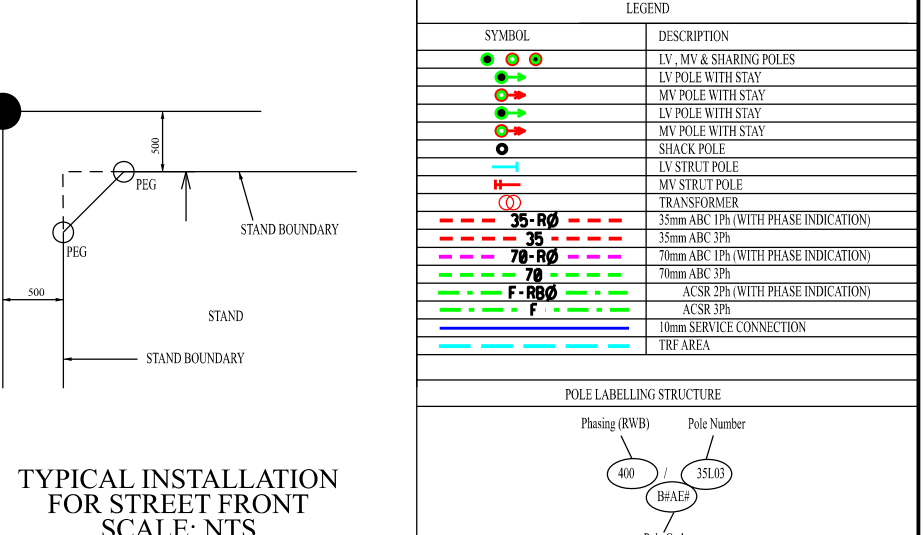
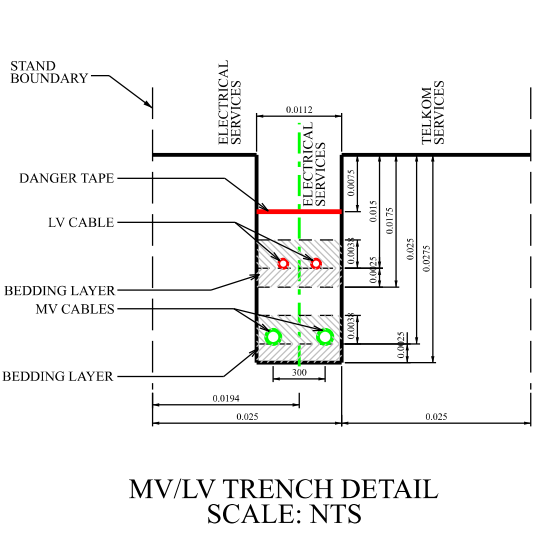
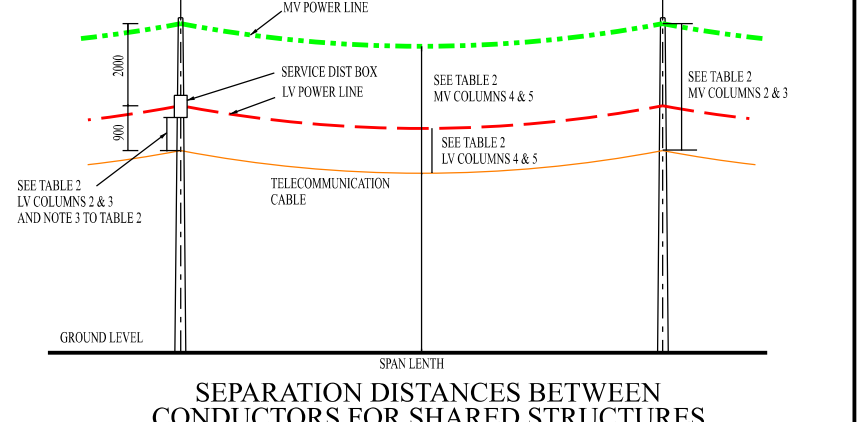


TABLE 2 SEPARATION DISTANCES BETWEEN POWER CONDUCTORS AND TELECOMMUNICATION CABLES THAT ARE ATTACHED TO SHARED STRUCTURES				
VOLTAGE LEVEL	SEPARATION DISTANCES AT ATTACHMENT POINTS ->		SEPARATION DISTANCES AT MID-SPAN ->	
	INSULATED CONDUCTORS (SEE NOTE 1)	BARE CONDUCTORS	INSULATED CONDUCTORS	BARE CONDUCTORS
MV	60	20	62	69
LV	60	60 TO NEUTRAL 1.5 TO LIVE	62	60

NOTES:
1. THESE SEPARATION DISTANCES ARE THE MINIMUM AND APPLY UNDER ALL OPERATING AND ENVIRONMENTAL CONDITIONS.
2. FOR WET AND DRY CONDITIONS, A FULLY INSULATED SYSTEM.
3. THE SEPARATION DISTANCES BETWEEN INSULATED CONDUCTORS AT AN ATTACHMENT POINT TO THE TOWER OR TELECOMMUNICATION CABLE AND THE LOWEST POINT OF THE POWER CONDUCTOR OR THE LOWEST POINT OF THE SERVICE DISTR. BOX, SHOULD BE 1.5m TO THE LOWEST POINT OF THE SERVICE DISTR. BOX.
4. IN A BARE WIRE, POINT OF AN UNINSULATED CONDUCTOR OR BARE, AT THE STRUCTURE, IF A BARE TERMINATION, THE BARE CONDUCTOR SEPARATION DISTANCE SHALL APPLY.



- NOTES:
- THE CONTRACTOR MUST ATTEMPT TO CONSTRUCT THE OVERHEAD LINES ALONG THE BOUNDARIES OF THE STANDS. LINES ENCRANCHING MORE THAN 2m FROM THE STAND BOUNDARY MUST BE REDIRECTED WITH ADDITIONAL POLES.
 - THE CONTRACTOR WILL BE ISSUED WITH A SURVEYOR GENERAL DRAWING WHICH MUST BE ON SITE AT ALL TIMES AND MUST BE USED TO SURVEY THE LINE ROUTE.
 - ALL SURVEYOR PEGS MUST BE TREATED WITH CARE AND THE CONTRACTOR WILL NOT BE PERMITTED TO REMOVE ANY PEG. PEGS REMOVED MUST BE RE-INSTALLED BY A PROFESSIONAL SURVEYOR.
 - THE MINIMUM GROUND CLEARANCE FOR LV CONDUCTOR ALONG STAND BOUNDARIES IS 3.9m AND AT ROAD CROSSINGS 5.7m.
 - THE NETWORK IS DESIGNED TO SHARE STRUCTURES, REQUIRING 900mm CLEARANCE ON ALL ATTACHMENT POINTS. POLE TOP BOXES MUST THEREFORE BE INSTALLED AS HIGH AS POSSIBLE ON THE LV POLES.
 - ALL NEUTRALS ON MULTI PHASE CIRCUITS MUST BE FERRULED OR SOLDERED.

TOTAL HOUSES:	43
TOTAL CONNECTIONS:	43
ADMD:	2.5 kVA/UNIT

TENDER ISSUED FOR TENDER PURPOSES ONLY			
As-Built	DATE:		
Construction	DATE:	2024-11-01	
Tender	DATE:		
Approval	DATE:		
Information	DATE:		
Planning	DATE:		

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HLALANIKAHLE EXT 3
ELECTRIFICATION (ERF 1478)

APPROVED: C DE BEER P Tech Eng (201770089)	
DESIGN: MGM MONGWE (B Tech Eng)	DRAWN: MGM MONGWE (B Tech Eng)
SCALE: 1 : 500 (A1)	DATE: 20 August 2024
DRAWING NUMBER: VE 2001-2-RETIC-ERF1448	SHEET 01 OF 01 REVISION: 0

LEGEND		
CODE	DESCRIPTION	DGN NOS
*****	POLE, CONCRETE 11M LONG (8.5 kV)	1120
*****	POLE, CONCRETE 11M LONG (8.5 kV)	1710
*****	POLE, CONCRETE 11M LONG (8 kV)	1714
*****	POLE, CONCRETE 11M LONG (8 kV)	1710 & 1716
*****	POLE, CONCRETE 11M LONG (8.7 kV)	1749
*****	MV-INT	
*****	MV-STR	
*****	MV-STR	
*****	MV-TERM	
*****	MV-T-OFF	
*****	LV-INT	1681
*****	LV-TERM	
*****	LV-T-OFF(INT)	
*****	100kV 11kV/400V Star P 1861	1140
1861	TR H Pole (100/200kV) (10-1m)	
1710	MV 3 Phase Staggered Vertical (600mm Spacing) 0 Intermediate	
1714	MV 3 Phase Staggered Vertical (600mm Spacing) 1-30 Strain	
1716	MV 3 Phase Staggered Vertical (600mm Spacing) Terminal	
1745	MV 3 Phase Delta / 2x2.5m Wooden x-arm 61-90 Strain	
1801	MV 3 Phase Vertical (600mm Spacing) T-Off	
1100	LV ABC 3 Phase Sup 0-30	
1120	LV ABC 3 Phase Term	
1140	LV ABC 3 Phase T from Int	

DEPTH	15m POLE	15m POLE	15m POLE	15m POLE	STAY ROD
WIDTH	12	12	12	12	12
HEIGHT	6.0	6.0	6.0	6.0	6.0
DEPTH	1.0	1.0	1.5	1.5	2.0
EXCAVATION	276	144	129	108	144
ADD BASE OF CHAIN TO EXC. SLO.	4	2	1	1	2

EXCAVATION SCHEDULE

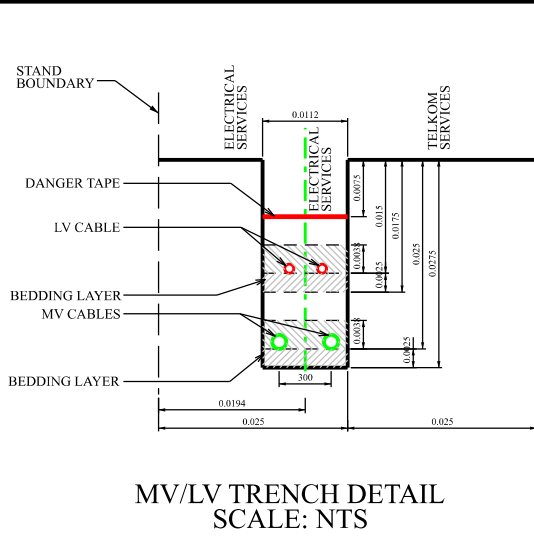
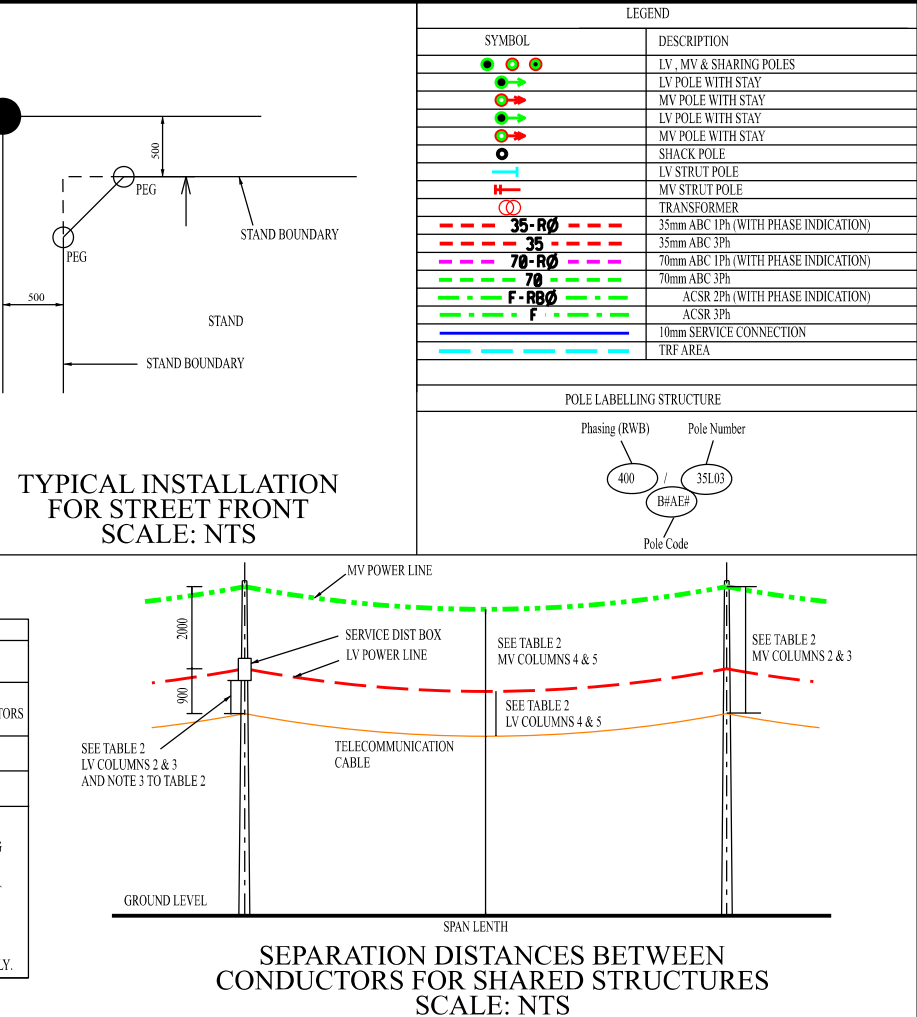


TABLE 2 SEPARATION DISTANCES BETWEEN POWER CONDUCTORS AND TELECOMMUNICATION CABLES THAT ARE ATTACHED TO SHARED STRUCTURES				
VOLTAGE LEVEL	1	2	3	4
	INSULATED CONDUCTORS (SEE NOTE 1)	BARE CONDUCTORS	INSULATED CONDUCTORS	BARE CONDUCTORS
MV	60	20	62	60
LV	60	60	62	60

NOTES:

- THESE SEPARATION DISTANCES ARE THE MINIMUM AND APPLY UNDER ALL OPERATING AND ENVIRONMENTAL CONDITIONS.
- IF WITH SHARED STRUCTURE, CABLES MUST BE FULLY INSULATED SYSTEM.
- THE SEPARATION DISTANCES BETWEEN INSULATED CONDUCTORS AT AN ATTACHMENT POINT TO THE POWER CONDUCTOR OR THE LOWEST POINT OF THE SERVICE DISTR. BOX, SHOULD BE AT THE LOWEST POINT OF THE POWER CONDUCTOR OR THE LOWEST POINT OF THE SERVICE DISTR. BOX. IF A BARE TERMINATION, THE BARE CONDUCTOR SEPARATION DISTANCE SHALL APPLY.



- NOTES:
- THE CONTRACTOR MUST ATTEMPT TO CONSTRUCT THE OVERHEAD LINES ALONG THE BOUNDARIES OF THE STANDS. LINES ENCRDACHING MORE THAN 2m FROM THE STAND BOUNDARY MUST BE REDIRECTED WITH ADDITIONAL POLES.
 - THE CONTRACTOR WILL BE ISSUED WITH A SURVEYOR GENERAL DRAWING WHICH MUST BE ON SITE AT ALL TIMES AND MUST BE USED TO SURVEY THE LINE ROUTE.
 - ALL SURVEYOR PEGS MUST BE TREATED WITH CARE AND THE CONTRACTOR WILL NOT BE PERMITTED TO REMOVE ANY PEGS. REMOVED MUST BE RE-INSTALLED BY A PROFESSIONAL SURVEYOR.
 - THE MINIMUM GROUND CLEARANCE FOR LV CONDUCTOR ALONG STAND BOUNDARIES IS 3.9m AND AT ROAD CROSSINGS 5.7m.
 - THE NETWORK IS DESIGNED TO SHARE STRUCTURES, REQUIRING 900mm CLEARANCE ON ALL ATTACHMENT POINTS. POLE TOP BOXES MUST THEREFORE BE INSTALLED AS HIGH AS POSSIBLE ON THE LV POLES.
 - ALL NEUTRALS ON MULTI PHASE CIRCUITS MUST BE FERRULED OR SOLDERED.

TOTAL HOUSES:	233
TOTAL CONNECTIONS:	231
ADMD:	2.5 kVA/UNIT

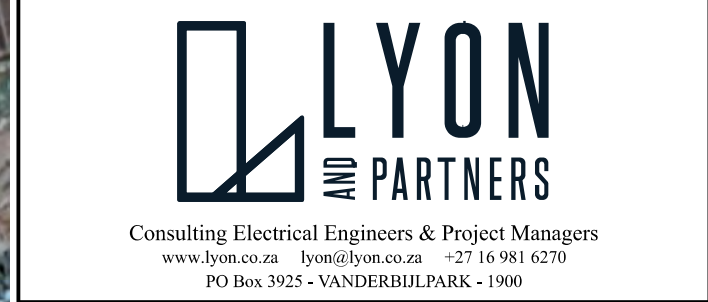
DATE:	REVISION:	DRAWN:	REV. NO.

TENDER		
ISSUED FOR TENDER PURPOSES ONLY		
As-Built	DATE:	
Construction	DATE:	2024-11-01
Tender	DATE:	
Approval	DATE:	
Information	DATE:	
Planning	DATE:	

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HLALANIKAHLE EXT 3 ELECTRIFICATION

APPROVED:	C DE BEER P Tech Eng (201770089)
DESIGN:	MGM MONGWE (B Tech Eng)
SCALE:	1: 750 (A1)
DRAWING NUMBER:	SHEET 01 OF 01
DRAWN:	MGM MONGWE (B Tech Eng)
DATE:	09 SEPTEMBER 2024
REVISION:	
VE 2001-2-RETIC	0

