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BID NOTICE

STELLENBOSCH MUNICIPALITY HEREBY INVITES YOU TO TENDER FOR B/SM 56/25 SUPPLY AND DELIVERY OF ELECTRICAL EQUIPMENT AND MATERIAL UNTIL 30 JUNE 2027

TENDER NUMBER: **B/SM 56/25**
DESCRIPTION: **SUPPLY AND DELIVERY OF ELECTRICAL EQUIPMENT AND MATERIAL UNTIL 30 JUNE 2027**
CLOSING DATE: **20 January 2025**
CLOSING TIME: 12h00: Bids will be opened in the **Council Chambers or Supply Chain Management Boardroom.**

INFORMATION:
Tender Specifications: Mark Benson at 021 808 8770 : e-mail: mark.benson@stellenbosch.gov.za
SCM Requirements: Jeanette Williams at 021 8088524: e-mail**:** Jeanette.Williams@Stellenbosch.gov.za.

Office hours for collection; 08h00-15h30

A compulsory virtual clarification meeting will be held on **06 December 2024 at 12:00** via Microsoft Teams. Tenderers must ensure to download the App. You are hereby requested to provide contact details which must include the contact person attending, company name you presenting, email address and cell phone number to **Bernine Kwago** at bernine.kwago@stellenbosch.gov.za and mark.benson@stellenbosch.gov.za clearly referring to the tender number 48 hours prior to the meeting (on **04 December 2024 at 12:00**) to enable the department to setup a virtual meeting. Tenderers who fail to provide their contact details for the virtual meeting, will be regarded as non-compliant. Provision for load shedding must be made.

Tenders may only be submitted on the Tender document issued by Stellenbosch Municipality and must be valid for **180 days** after tender closing. Late, electronic format, telephonic or faxed Tenders will not be considered and Stellenbosch Municipality does not bind itself to accept the lowest bid or any of the tenders that has been submitted.

Sealed Tenders, with **"B/SM 56/25 SUPPLY AND DELIVERY OF ELECTRICAL EQUIPMENT AND MATERIAL UNTIL 30 JUNE 2027"** clearly endorsed on the envelope, must be deposited in the Tender box at the offices of the Stellenbosch Municipality, Town House Complex, Plein Street, Stellenbosch. The Tender box is accessible 24 hours a day and Tenders must be accompanied by the completed Tender documents. Tenders not accompanied by a complete Tender document, will not be considered.

NOTE: This tender will be evaluated in terms of the General Conditions of Contract**,** Supply Chain Management Policy and relevant specification as depicted in the document and also the Stellenbosch Preferential Procurement Policy effective from 16 January 2023 in accordance with the Preferential Procurement Regulations that was promulgated by the Minister of Finance on 04 November 2022 in Government Gazette No 47452.

The preferential points system applied is as follows:80/20 in terms of the approved policy.

Price	**80**
B-BBEE status level of contribution	**20**
Total points for Price and B-BBEE	**100**

The following conditions to Tender exist (failure to comply may result in your Tender being disqualified):

1. This Tender is subject to the general conditions of contract (GCC) and special conditions for Tendering.
2. Relevant terms of reference.
3. Tenderers must be registered on the Central supplier database (CSD) if they wish to conduct business with the municipality.
4. No award will be made to tenderers whose tax status is non-compliant.
5. Tenders submitted must be in a sealed envelope clearly marked with the Tender number, placed in the tender box before closing time. Failure will result in the tender being invalid.

*Tender documents, in English, are available free of charge on the website: www.stellenbosch.gov.za. Alternatively, hard copies of the document are obtainable from the offices of the Supply Chain Management Unit, , Stellenbosch Municipality, Town House Complex, 1st Floor, Plein Street, Stellenbosch, upon payment of a non-refundable fe**e of R1 164.00 per document.***

Note: The municipality will never contact you to pay money in exchange for the award of a tender.

G Mettler (Ms)
MUNICIPAL MANAGER

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TENDER KENNISGEWING

STELLENBOSCH MUNISIPALITEIT NOOI U VIR DIE VOLGENDE TENDER: B/SM 56/25 VOORSIENING EN AFLEWERING VAN ELEKTRIESE TOERUSTING EN MATERIAAL TOT EN MET 30 JUNIE 2027

TENDER NOMMER:	**B/SM 56/25**
BESKRYWING:	**VOORSIENING EN AFLEWERING VAN ELEKTRIESE TOERUSTING EN MATERIAAL TOT EN MET 30 JUNIE 2027**
SLUITINGSDATUM:	**20 Januarie 2025**
TYD VAN SLUITING:	**12h00.** Tenders sal oopgemaak word in die **Raadsaal** of in die **Voorsieningskanaalbestuurs Raadsaal**.

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Tenders mag slegs ingedien word op die tenderdokumentasie verskaf deur Stellenbosch Munisipaliteit en moet geldig wees vir **180 dae** na die sluitingsdatum. Laat, elektroniese formaat of gefakse tenders sal nie aanvaar word nie en Stellenbosch Munisipaliteit is nie verplig om die laagste of enige tender wat ingedien word te aanvaar nie.

Verseëlde tenders duidelik gemerk: **"B/SM 56/25 VOORSIENING EN AFLEWERING VAN ELEKTRIESE TOERUSTING EN MATERIAAL TOT EN MET 30 JUNIE 2027',**op die koevert, moet geplaas word in tenderbus buite die kantore van Stellenbosch Munisipaliteit ,Meenthuis Kompleks, Stellenbosch. Die tenderbus is 24 uur per dag beskikbaar en tenders moet vergesel word met die voltooide stel tenderdokumente. Tenderaanbiedinge wat nie deur die volledige tenderdokument vergesel word nie, sal nie oorweeg word nie.

LET WEL: Hierdie tender sal geëvalueer word ingevolge die Algemene Kontrakvoorwaardes, Voorsieningskanaal Bestuursbeleid and relevante spesifikasies, soos vervat in die tender dokument asook die Stellenbosch **Voorkeurverkrygingsbeleid effektief vanaf 16 Januarie 2023 in samewerking met die Voorkeurverkrygingsregulasies wat op 04 November 2022 deur die Minister van Finansies in Staatskoerant No 47452 afgekondig is.**

Die voorkeurpunte stelsel is soos volg gebaseer: **80/20** in terme van die goedgekeurde beleid:

Prys	**80**
BBSEB status	**20**
Totale punte vir prys en B-BSEB	**100**

Die volgende voorwaardes vir Tender soos volg: (versuim om te voldoen, kan veroorsaak dat u Tender gediskwalifiseer word):

1. Hierdie tender is onderworpe aan die algemene kontrakvoorwaardes (GCC) en spesiale voorwaardes vir die tender;
2. Toepaslike opdrag
3. Tenderaars moet geregistreer wees op Sentrale verskaffersdatabasis (SVD) as hulle met die munisipaliteit sake wil doen
4. Geen toekenning sal gemaak word aan diensverskaffers wie se Belasting status ongeldig is.
5. Die tender wat ingedien moet word, moet in 'n verseëlde koevert wees wat duidelik gemerk is met die Tendernommer, wat in die tenderbus voor sluitingstyd geplaas word. Versuim sal tot gevolg hê dat die tender ongeldig is.

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Let wel: Die munisipaliteit sal jou nooit kontak om geld te betaal in ruil vir die toekenning van 'n tender nie.

G Mettler (Me)
MUNISIPALE BESTUURDER

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V7 – 16/01/2023

TENDER NO.: B/SM 56/25

SUPPLY AND DELIVERY OF ELECTRICAL EQUIPMENT AND MATERIAL UNTIL 30 JUNE 2027

PROCUREMENT DOCUMENT

NAME OF TENDERER:		
Total Bid Price (Inclusive of VAT) ***(refer to page 185)*:**	**Rates based tender**	
BBBEE LEVEL		
CLAIM POINTS FOR	**LOCALITY**	**N/A**

DATE: NOVEMBER 2024

PREPARED AND ISSUED BY:

Directorate: Finance:
Supply Chain Management Unit
Stellenbosch Municipality,
PO Box 17, Stellenbosch, 7599

CONTACT FOR ENQUIRIES REGARDING SPECIFICATIONS:

MARK BENSON

MANAGER

Tel. Number: **021 808 8770**

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1. TENDER NOTICE & INVITATION TO TENDER

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G Mettler (Ms)
MUNICIPAL MANAGER

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G Mettler (Me)
MUNISIPALE BESTUURDER

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PART A
INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (*NAME OF MUNICIPALITY/ MUNICIPAL ENTITY*)					
BID NUMBER:	**BSM 56/25**	CLOSING DATE:	**20 January 2025**	CLOSING TIME:	**12:00**
DESCRIPTION	**SUPPLY AND DELIVERY OF ELECTRICAL EQUIPMENT AND MATERIAL UNTIL 30 JUNE 2027**				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

BID RESPONSE DOCUMENTS MUST BE DEPOSITED IN THE BID BOX SITUATED AT **STELLENBOSCH MUNICIPALITY, TOWN HOUSE COMPLEX, PLEIN STREET, STELLENBOSCH**					
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:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	☐ Yes ☐ 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]					
1. ARE YOU THE ACCREDITED REPRESENTATIVE **IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?**	☐Yes ☐No [IF YES ENCLOSE PROOF]		**2.** ARE YOU A FOREIGN BASED SUPPLIER FOR **THE GOODS /SERVICES /WORKS OFFERED?**	☐Yes ☐No [IF YES, ANSWER PART B:3]	
3. TOTAL NUMBER OF ITEMS OFFERED			**4. TOTAL BID PRICE**	**R**	
5. SIGNATURE OF BIDDER	……		**6. DATE**		
7. CAPACITY UNDER WHICH THIS BID IS SIGNED					

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		**TECHNICAL INFORMATION MAY BE DIRECTED TO:**	
DEPARTMENT	FINANCE (SCM)	CONTACT PERSON	Mark Benson
CONTACT PERSON	Jeanette Williams	TELEPHONE NUMBER	021 808 8770
TELEPHONE NUMBER	0218088525	FACSIMILE NUMBER	
FACSIMILE NUMBER		E-MAIL ADDRESS	mark.benson@stellenbosch.gov.za
E-MAIL ADDRESS	Jeanette.Williams@stellenbosch.gov.za		

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PART B
TERMS AND CONDITIONS FOR BIDDING

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, 2022, THE STELLENBOSCH SUPPLY CHAIN MANAGEMENT POLICY, 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)?	☐ YES ☐ NO
3.2.	DOES THE ENTITY HAVE A BRANCH IN THE RSA?	☐ YES ☐ NO
3.3.	DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	☐ YES ☐ NO
3.4.	DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	☐ YES ☐ NO
3.5.	IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	☐ YES ☐ NO

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

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

SIGNATURE OF BIDDER:

……

CAPACITY UNDER WHICH THIS BID IS SIGNED:

……

DATE: ……..

CONTENTS

PAGE NUMBER

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PART A – ADMINISTRATIVE REQUIREMENTS IN TERMS OF THE SUPPLY CHAIN MANAGEMENT POLICY

2. CHECKLIST

PLEASE ENSURE THAT THE FOLLOWING FORMS HAVE BEEN DULY COMPLETED AND SIGNED AND THAT ALL DOCUMENTS AS REQUESTED, ARE ATTACHED TO THE TENDER DOCUMENT:

Certificate of Virtual Meeting Attendance - Is the form duly completed and signed by both tenderer and agent of the Stellenbosch Municipality?	**Yes**		**No**	
Authority to Sign a Bid - Is the form duly completed and is a **certified copy** of the **resolution** attached?	**Yes**		**No**	
MBD 4 (Declaration of Interest) - Is the form duly completed and signed?	**Yes**		**No**	
MBD 5 - Is the form duly completed and signed?	**Yes**		**No**	
MBD 6.1 (Preference Points claim form for purchases/services) - Is the form duly completed and signed? Is a copy of the **B-BBEE Certificate** issued by a Verification Agency accredited by SANAS **or** the **original Sworn Affidavit** attached? (NB! BBBEE CERTIFICATES CAN BE VERIFIED WITH THE VERIFICATION AGENCY BUT A SWORN AFFIDAVIT **MUST** BE AN ORIGINAL AND **NOT** A COPY TO BE ELIGIBLE FOR BBBEE POINTS)	**Yes**		**No**	
MBD 8 (Declaration of Past Supply Chain Practices) - Is the form duly completed and signed?	**Yes**		**No**	
MBD 9 (Certificate of Independent Bid Determination) - Is the form duly completed and signed?	**Yes**		**No**	
MBD 10 (Certificate of Payment of Municipal Accounts) - Is the form duly completed and signed? Are the **Identity numbers**, **residential addresses** and **municipal account numbers** of **ALL** members, partners, directors, etc. provided on the form as requested? (NB! MUNICIPAL ACCOUNTS WILL BE VERIFIED AND USED AS BASIS FOR PREFERENCE POINTS SCORING IN TERMS OF THE STELLENBOSCH PREFERENTIAL PROCUREMENT POLICY. THE BUSINESS ADDRESS, LEASE AGREEMENT OR SWORN AFFADAVIT WILL BE THE BASIS FOR AWARDING POINTS FOR LOCALITY)	**Yes**		**No**	
OHSA (Occupational Health and Safety) - Is the form duly completed and signed? Is a valid **Letter of Good Standing** from the Compensation Commissioner attached?	**Yes**		**No**	
Form of Indemnity - Is the form duly completed and signed?	**Yes**		**No**	
Pricing Schedule - Is the form duly completed and signed?	**Yes**		**No**	
Form of Offer- Is the form duly completed and signed?	**Yes**		**No**	
Declaration by Tenderer - Is the form duly completed and signed?	**Yes**		**No**	

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3. CLARIFICATION/VIRTUAL MEETING CERTIFICATE

Virtual meetings declaration:

I / We*, the undersigned, certify that I / we* have familiarized ourselves with the requirements of this tender as discussed at the virtual meeting for which I / we* am / are* submitting this Tender and have, as far as practicable, familiarized myself / ourselves* with all information, risks, contingencies and other circumstances which may influence or affect my / our* tender

NAME & SURNAME			
CAPACITY			
NAME OF FIRM			
ADDRESS			
TELEPHONE NO		FAX NO:	
E-MAIL		SIGNATURE	

For all compulsory virtual teams meetings **,** bidders who fail to provide their contact details 48 hours prior to the virtual teams meeting , will be regarded as **non-compliant**

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4. AUTHORITY TO SIGN A BID

1. SOLE PROPRIETOR (SINGLE OWNER BUSINESS) AND NATURAL PERSON

1.1. I, _____, the undersigned, hereby confirm that I am the sole owner of the business trading as _____.

OR

1.2. I, _____, the undersigned, hereby confirm that I am submitting this tender in my capacity as natural person.

SIGNATURE:		DATE:	
PRINT NAME:			
WITNESS 1:		WITNESS 2:	

2. COMPANIES AND CLOSE CORPORATIONS

2.1. **If a Bidder is a COMPANY**, **a certified copy of the resolution by the board of directors**, duly signed, authorising the person who signs this bid to do so, as well as to sign any contract resulting from this bid and any other documents and correspondence in connection with this bid and/or contract on behalf of the company **must be submitted with this bid,** that is, before the closing time and date of the bid

2.2. In the case of a **CLOSE CORPORATION (CC**) submitting a bid**, a resolution by its members**, authorizing a member or other official of the corporation to sign the documents on their behalf, **shall be included with the bid.**

PARTICULARS OF RESOLUTION BY BOARD OF DIRECTORS OF THE COMPANY/MEMBERS OF THE CC

Date Resolution was taken	
Resolution signed by (name and surname)	
Capacity	
Name and surname of delegated Authorized Signatory	
Capacity	
Specimen Signature	

Full name and surname of ALL Director(s) / Member (s)			
1.		2.	
3.		4.	
5.		6.	
7.		8.	
9.		10.	

Is a CERTIFIED COPY of the resolution attached?	**YES**		**NO**	

SIGNED ON BEHALF OF COMPANY / CC:		DATE:	
PRINT NAME:			
WITNESS 1:		WITNESS 2:	

3. PARTNERSHIP

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We, the undersigned partners in the business trading as _____ hereby authorize Mr./Ms. _____ to sign this bid as well as any contract resulting from the bid and any other documents and correspondence in connection with this bid and /or contract for and on behalf of the abovementioned partnership.

The following particulars in respect of every partner must be furnished and signed by every partner:

Full name of partner			Signature
SIGNED ON BEHALF OF PARTNERSHIP:		DATE:	
PRINT NAME:			
WITNESS 1:		WITNESS 2:	

4. CONSORTIUM

We, the undersigned consortium partners, hereby authorize_____ _____ (Name of entity) to act as lead consortium partner and further authorize Mr./Ms. _ _____ To sign this offer as well as any contract resulting from this tender and any other documents and correspondence in connection with this tender and / or contract for and on behalf of the consortium.

The following particulars in respect of each consortium member must be provided and signed by each member:

Full Name of Consortium Member	Role of Consortium Member		% Participation	Signature
SIGNED ON BEHALF OF PARTNERSHIP:			DATE:	
PRINT NAME:				
WITNESS 1:		WITNESS 2:		

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5. CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This returnable schedule is to be completed by JOINT VENTURES

We, the undersigned, are submitting this tender offer in joint venture and hereby authorize Mr./Ms. ___ _____ authorized signatory of the Company/Close Corporation/Partnership (name) _____ _____, acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

(i) Name of firm (Lead partner)			
Address			
		Tel. No.	
Signature		Designation	

(ii) Name of firm			
Address			
		Tel. No.	
Signature		Designation	

(iii)Name of firm			
Address:			
		Tel. No.	
Signature		Designation	

(iv) Name of firm			
Address			
		Tel. No.	
Signature		Designation	

NOTE: A copy of the Joint Venture Agreement showing clearly the percentage contribution of each partner to the Joint Venture shall be appended to this Schedule.

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6. GENERAL CONDITIONS OF CONTRACT – GOVERNMENT PROCUREMENT

1. DEFINITIONS

The following terms shall be interpreted as indicated:

1.1. “Closing time” means the date and hour specified in the bidding documents for the receipt of bids.

1.2. “Contract” means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.3. “Contract price” means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.

1.4. “Corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

1.5. "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally

1.6. “Country of origin” means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

1.7. “Day” means calendar day.

1.8. “Delivery” means delivery in compliance of the conditions of the contract or order.

1.9. “Delivery ex stock” means immediate delivery directly from stock actually on hand

1.10. “Delivery into consignees store or to his site” means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.

1.11. "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which has the potential to harm the local industries in the RSA.

1.12. ” Force majeure” means an event beyond the control of the supplier and not involving the supplier’s fault or negligence and not foreseeable.

1.13. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

1.14. “Fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.

1.15. “GCC” means the General Conditions of Contract.

1.16. “Goods” means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.

1.17. “Imported content” means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.

1.18. “Local content” means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.

1.19. "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.

1.20. "Order" means an official written order issued for the supply of goods or works or the rendering of a service.

1.21. "Project site" where applicable, means the place indicated in bidding documents.

1.22. "Purchaser" means the organization purchasing the goods.

1.23. "Republic" means the Republic of South Africa.

1.24. "SCC" means the Special Conditions of Contract.

1.25. "Services" means that functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.

1.26. "Supplier" means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.

1.27. "Tort" means in breach of contract.

1.28. "Turnkey" means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.

1.29. "Written" or "in writing" means handwritten in ink or any form of electronic or mechanical writing.

2. Application

2.1. These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.

2.2. Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.

2.3. Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

3.1. Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.

3.2. Invitations to bid are usually published in locally distributed news media and on the municipality / municipal entity website.

4. Standards

4.1. The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information; inspection.

5.1. The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.

5.2. The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.

5.3. Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.

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5.4. The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent rights

6.1. The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

6.2. When a supplier developed documentation / projects for the municipality / municipal entity, the intellectual, copy and patent rights or ownership of such documents or projects will vest in the municipality / municipal entity.

7. Performance security

7.1. Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.

7.2. The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.

7.3. The performance security shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:

7.3.1. bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or

7.3.2. a cashier's or certified cheque

7.4. The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

8. Inspections, tests and analyses

8.1. All pre-bidding testing will be for the account of the bidder. If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspections tests and analysis, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or an organization acting on behalf of the purchaser.

8.2. If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.

8.3. If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.

8.4. Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.

8.5. Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.

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8.6. Any contract goods may on or after delivery be inspected, tested or analyzed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.

8.7. The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

9. Packing

9.1. The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2. The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, and in any subsequent instructions ordered by the purchaser.

10. Delivery

Delivery of the goods shall be made by the supplier in accordance with the documents and terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified.

11. Insurance

The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.

12. Transportation

Should a price other than an all-inclusive delivered price be required, this shall be specified.

13. Incidental

13.1. The supplier may be required to provide any or all of the following services, including additional services, if any:

13.1.1. performance or supervision of on-site assembly and/or commissioning of the supplied goods;

13.1.2. furnishing of tools required for assembly and/or maintenance of the supplied goods;

13.1.3. furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods.

13.1.4. performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and

13.1.5. training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2. Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1. As specified, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

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14.1.1. such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and;

14.1.2. in the event of termination of production of the spare parts:

14.1.2.1. advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

14.1.2.2. following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

15.1. The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

15.2. This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.

15.3. The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.

15.4. Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.

15.5. If the supplier, having been notified, fails to remedy the defect(s) within the period specified, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment

16.1. The method and conditions of payment to be made to the supplier under this contract shall be specified.

16.2. The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.

16.3. Payments shall be made by the purchaser **no later than thirty (30**) days after submission of an **invoice, statement** or claim by the supplier.

16.4. Payment will be made in Rand unless otherwise stipulated.

17. Prices

Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized or in the purchaser's request for bid validity extension, as the case may be.

18. Variation orders

In cases where the estimated value of the envisaged changes in purchase does not vary more tha15% of the total value of the original contract, the contractor may be instructed to deliver the goods or render the services as such. In cases of measurable quantities, the contractor may be approached to reduce the unit price and such offers, may be accepted provided that there is no escalation in price.

19. Assignment

The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

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20. Subcontracts

The supplier shall notify the purchaser in writing of all subcontracts awarded under this contract, if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

21.1. Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2. If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

21.3. The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.

21.4. Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22 without the application of penalties.

21.5. Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1. The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

23.1.1. if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;

23.1.2. if the Supplier fails to perform any other obligation(s) under the contract; or

23.1.3. if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2. In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3. Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

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23.4. If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.

23.5. Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchase actively associated.

23.6. If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:

23.6.1. the name and address of the supplier and / or person restricted by the purchaser;

23.6.2. the date of commencement of the restriction

23.6.3. the period of restriction; and

23.6.4. the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

23.7. If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website.

24. Anti-dumping and countervailing duties and rights

When, after the date of bid, provisional payments are required, or antidumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped of subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

25. Force Majeure

25.1. Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2. If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

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27. Settlement of Disputes

27.1. If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2. If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3. Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4. Notwithstanding any reference to mediation and/or court proceedings herein,

27.4.1. the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and

27.4.2. the purchaser shall pay the supplier any monies due for goods delivered and / or services rendered according to the prescripts of the contract.

28. Limitation of liability

28.1. Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;

28.1.1. the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and

28.1.2. the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment

29. Governing language

The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

30. Applicable law

The contract shall be interpreted in accordance with South African laws, unless otherwise specified.

31. Notices

31.1. Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice

31.2. The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and duties

32.1. A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.

32.2. A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.

32.3. No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.

32.4. No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.

33. Transfer of contracts

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The contractor shall not abandon, transfer, cede, assign or sublet a contract or part thereof without the written permission of the purchaser.

34. Amendment of contracts

No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.

35. Prohibition of restrictive practices.

35.1. In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is / are or a contractor(s) was / were involved in collusive bidding.

35.2. If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 0f 1998.

35.3. If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

General Conditions of Contract (revised July 2010)

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7. GENERAL CONDITIONS OF TENDER

1. Sealed tenders, with the **"Tender Number and Title"** clearly endorsed on the envelope, must be deposited in the **tender box** at the offices of the Stellenbosch Municipality, Plein Street, Stellenbosch.

2. The tender must be lodged by the Tenderer in the tender box in the Main Hall Entrance, Stellenbosch Municipal Offices, Plein Street, Stellenbosch

PLEASE NOTE:

2.1. Tenders that are deposited in the incorrect box will not be considered.

2.2. Mailed, telegraphic or faxed tenders will not be accepted.

2.3. Documents may only be completed in non-erasable ink.

2.4. The use of correction fluid/tape is not allowed.

2.4.1. In the event of a mistake having been made, it shall be crossed out in ink and be accompanied by an initial at each and every alteration.

2.4.2. Alterations or deletions not signed by the Tenderer may render the tender invalid.

2.5. All bids must be submitted in writing on the official forms supplied (not to be re-typed)

2.6. All prices shall be quoted in South African currency and be **INCLUSIVE of VAT.**

3. Where the value of an intended contract will exceed R1 000 000, 00 (R1 million) it is the bidder's responsibility to be registered with the South African Revenue Service (SARS) for VAT purposes in order to be able to issue tax invoices. The municipality will deem the price above R 1 000 000,00 (R1 million) to be VAT inclusive even if it is indicated that no VAT is charged. Please insure that provision is made for VAT in these instances.

3.1 It is a requirement of this contract that the amount of value-added tax (VAT) must be shown clearly on each invoice.

3.2 The amended Value-Added Tax Act requires that a Tax Invoice for supplies in excess of R3 000 should, in addition to the other required information, also disclose the VAT registration number of the recipient, with effect from 1 March 2005. The VAT registration number of the Stellenbosch Municipality is **4700102181.**

3 Any Tender received after the appointed time for the closing of Tenders shall not be considered but shall be filed unopened with the other Tenders received or may be returned to the Tenderer at his request.

4 Tenders may not be telefaxed to the Municipality and therefore any tenders received by fax will **not** be considered.

5 Tenders shall be opened in public at the Stellenbosch Municipal Offices as soon as possible after the closing time for the receipt of tenders.

6 The Municipality shall have the right to summarily disqualify any Tenderer who, either at the date of submission of this tender or at the date of its award, is indebted to the Municipality in respect of any rental, levies, rates and/or service charges; ALTERNATIVELY;

6.1 That an agreement be signed whereby the Tenderer agrees that a percentage or fixed amount at the discretion of the Municipality, be deducted from payments due to him for this tender, until the debt is paid in full.

6.2 The tenderer shall declare **all** the Municipal account numbers in the Stellenbosch Area for which the enterprise or the proprietors or directors in their personal capacity is/ are responsible or co-responsible.

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7. Negotiations for a fair market related price

7.1 The award of the tender may be subject to price negotiation with the preferred tenderers.

8 This bid will be evaluated and adjudicated according to the following criteria:

8.1 Relevant specifications
8.2 Value for money
8.3 Capability to execute the contract
8.4 PPPFA & associated regulations

9 Service Level Agreement

The award of the tender is subject to the signing of a Service Level Agreement (SLA) between the successful bidder and Stellenbosch Municipality.

10 Centralised Supplier Database

No Bids will be awarded to a bidder who is not registered on the Centralized Supplier Database (CSD).

The CSD supplier number starting with (MAAA) number is automatically generated by the Central Database System after successful registration and validation of a prospective service provider. This number is now a mandatory requirement, as referred to in regulation 14(1) *(b)* of the Municipal Supply Chain Management Regulations, as part of the listing criteria for accrediting a prospective service provider. Prospective suppliers should self – register on the CSD website at www.csd.gov.za Registration on the CSD will be compulsory in order to conduct business with the STELLENBOSCH MUNICIPALITY. Registration on CSD can be done by contacting 021 808 8594 or Nicolene.Hamilton@stellenbosch.gov.za

Centralized Supplier Database No. MAAA……

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8. MBD 4 – DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state[1].

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 and/or take an oath declaring his/her interest.

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, shareholder [2] etc.)**	
3.4.	**Company Registration Number**	
3.5.	**Tax Reference Number**	
3.6.	**VAT Registration Number**	

3.7.	**Are you presently in the service of the state?**	**YES**		**NO**	
3.7.1.	If so, furnish particulars:				
3.8.	**Have you been in the service of the state for the past twelve months?**	**YES**		**NO**	
3.8.1.	If so, furnish particulars:				

[1] *MSCM 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. an executive 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.*

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3.9.	**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**	
3.9.1.	If so, furnish particulars:				
3.10.	**Are you aware of any relationship (family, friend, other) between a 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**	
3.10.1.	If so, furnish particulars:				
3.11.	**Are any of the company's directors, managers, principal shareholders or stakeholders in the service of the state?**	**YES**		**NO**	
3.11.1.	If so, furnish particulars:				
3.12.	**Is any spouse, child or parent of the company's directors, managers, principal shareholders or stakeholders in the service of the state?**	**YES**		**NO**	
3.12.1.	If so, furnish particulars:				
3.13.	**Do you or any of the directors, trustees, managers, principal 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**	
3.13.1.	If so, furnish particulars:				

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3.14.	Please provide the following information on ALL directors/shareholders/trustees/members below:		
Full Name and Surname	**Identity Number**	**Personal Income Tax Number**	**Provide State[3] Employee Number**

NB:

a) PLEASE ATTACH CERTIFIED COPY(IES) OF ID DOCUMENT(S)

b) PLEASE PROVIDE PERSONAL INCOME TAX NUMBERS FOR ALL DIRECTORS / SHAREHOLDERS / TRUSTEES / MEMBERS, ETC.

4. DECLARATION

I, the undersigned (name) _____,
certify that the information furnished in paragraph 3 above is correct.

I accept that the state may act against me should this declaration prove to be false.

SIGNATURE		DATE	
NAME OF SIGNATORY			
POSITION			
NAME OF COMPANY			

[3] *MSCM 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. an executive member of the accounting authority of any national or provincial public entity; or
f. *an employee of Parliament or a provincial legislature.*

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9. MBD5 – DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (VAT INCLUDED)

For all procurement expected to exceed R10 million (VAT included), bidders must complete the following questionnaire:

1. Are you by law required to prepare annual financial statements for auditing?	**YES**		**NO**	
1.1. If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.				
2. Do you have any outstanding undisputed commitments for municipal services towards a municipality or any other service provider in respect of which payment is overdue for more than 30 days?	**YES**		**NO**	
2.1. If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days. 2.2. If yes, provide particulars.				
3. Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?	**YES**		**NO**	
3.1. If yes, furnish particulars				
4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?	**YES**		**NO**	
4.1 If yes, furnish particulars				

CERTIFICATION

I, the undersigned (name) _____, certify that the information furnished on this declaration form is correct.

I accept that the state may act against me should this declaration prove to be false.

SIGNATURE		DATE	
NAME (PRINT)			
CAPACITY			
NAME OF FIRM			

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10. MBD6.1 – PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022 – PURCHASES/SERVICES 80/20

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, 2022 and the Stellenbosch Preferential Procurement Policy 2022/23

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 and any other applicable preference

1. GENERAL CONDITIONS

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

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

1.2

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

b) the 80/20 preference point system will be applicable to this tender .

1.3 Points for this bid shall be awarded for:

(a) Price;

(b) B-BBEE Status Level of Contributor. and

(c) Locality of supplier

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

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	10
LOCALITY (See definitions)	10
Total points for Price, BBBEE and Locality (must not exceed 100)	**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 Failure on the part of a bidder to submit proof of Locality together with the bid, will be interpreted to mean that preference points for Locality are not claimed**.(N/A).**

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

2. DEFINITIONS

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

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

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

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

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

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

(g) "**Locality**" means the local suppliers and/or service providers that business offices are within the Municipal area of Stellenbosch (WC024).

(h) **"price"** includes all applicable taxes less all unconditional discounts;

(i) **"Proof of B-BBEE status level of contributor"** means:

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

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

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

(j) **"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;

(k) "**Specific goals**" means specific goals as contemplated in section 2(1)(d) of the Act which may include contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender and disability including the implementation of programmes of the Reconstruction and Development Programme as published in Government Gazette No. 16085 dated 23 November 1994;

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

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3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

4. POINTS AWARDED FOR PRICE

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

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

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

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

Where

Ps = Points scored for price of bid under consideration

Pt = Price of bid under consideration

Pmin = Price of lowest acceptable bid

4.2 FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME-GENERATING PROCUREMENT

4.3 POINTS AWARDED FOR PRICE

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

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

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

Where

Ps = Points scored for price of bid under consideration

Pt = Price of bid under consideration

Pmax = Price of highest acceptable bid

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

5.1 In terms of Regulation 4 (2) and 5 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining a specific goal specified for the tender

5.2 The tendering conditions will stipulate the specific goals, as contemplated in section 2(1)(d)(ii) of the Preferential Procurement Act, be attained.

5.3 A maximum of 20 points (80/20 preference points system) or 10 (90/10) preference points system), must be allocated for specific goals. These goals are:

(a) contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender or disability;

(b) Promotion of enterprises located in the municipal area (WCO24) . **(N/A)**

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5.4 Regarding par 5.3 (a) at least 50% of the 20/10 points must be allocated to promote this goal and points will be allocated in terms of the BBBEE scorecard as follows.

B-BBEE Status Level of Contributor	Number of Points for 80/20 Preference Points System	Number of Points for 90/10 Preference Points System
1	20	10
2	18	9
3	16	8
4	12	5
5	8	4
6	6	3
7	4	2
8	2	1
Non-compliant contributor	0	0

5.5 A tenderer must submit proof of its BBBEE status level contributor.

5.6 A tenderer failing to submit proof of BBBEE status level of contributor –

5.6.1 may only score in terms of the 80/90-point formula for price; and

5.6.2 scores 0 points out of 10/5 BBBEE status level of contributor, which is in line with section 2 (1) (d) (i) of the Act, where the supplier or service provider did not provide proof thereof.

5.7 Regarding par 5.3 (b) a maximum of 50% of the 20/10 points must be allocated to promote this goal. Maximum points will be allocated as follows.

Locality of supplier	Number of Points for 80/20 Preference Points System	Number of Points for 90/10 Preference Points System
Within the boundaries of the municipality	10	5
Outside of the boundaries of the municipality	0	0

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6. BID DECLARATION

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution and/or Locality must complete the following:

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

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

(Points claimed in respect of paragraph 7.1 must be substantiated by relevant proof of B-BBEE status level of contributor.)

7.2 Within the boundaries of Stellenbosch Municipality (WC024)?

YES		NO	

Business Address - ……

……

……

(Points claimed in respect of paragraph 7.2 must be substantiated by relevant proof that the business premises is situated in the Municipal area of Stellenbosch (WC024). A valid municipal account or proof of valid lease agreement, or sworn affidavit must be attached)

8. SUB-CONTRACTING

8.1 Will any portion of the contract be sub-contracted?

(***Tick applicable box***)

YES		NO	

8.1.1 If yes, indicate:

i) What percentage of the contract will be subcontracted.....……..……%
ii) The name of the sub-contractor……..
iii) The B-BBEE status level of the sub-contractor.....……...
iv) Whether the sub-contractor is an EME or QSE

(Tick applicable box)

YES		NO	

v) Specify, by ticking the appropriate box, if subcontracting with an enterprise

Designated Group: An EME or QSE which is at last 51% owned by:	**EME** √	**QSE** √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		

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Black people who are military veterans		
OR		
Any EME		
Any QSE		

9. **DECLARATION WITH REGARD TO COMPANY/FIRM**

9.1 Name of company/firm:……..

9.2 VAT registration number:……

9.3 Company registration number:……

9.4 TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

……
……
……

9.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[*TICK APPLICABLE BOX*]

9.7 **MUNICIPAL INFORMATION**

Municipality where business is situated: ……..

Registered Account Number: ……

Stand Number:……

9.8 Total number of years the company/firm has been in business:……

9.9 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

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indicated in paragraph 1 of this form;

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

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

(a) disqualify the person from the bidding process;

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

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

(d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution.

SIGNATURE OF BIDDER(S):			
WITNESS 1:		WITNESS 2:	
DATE:			
ADDRESS:			

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PLEASE COMPLETE IN FULL YOUR OWN AFFIDAVIT TO CLAIM POINTS

SWORN AFFIDAVIT – B-BBEE EXEMPTED MICRO ENTERPRISE – GENERAL (DRAFT EXAMPLE)

(DO NOT USE. USE NEW/APPLICABLE TEMPLATE)

I, the undersigned,

Full name & Surname	
Identity number	

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a Member / Director / Owner (**Select one**) of the following enterprise and am duly authorised to act on its behalf: NB!

Enterprise Name:	
Trading Name (If Applicable):	
Registration Number:	
Vat Number (If applicable)	
Enterprise Physical Address:	
Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):	
Nature of Business:	
Definition of "Black People"	As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians – (a) who are citizens of the Republic of South Africa by birth or descent; or (b) who became citizens of the Republic of South Africa by naturalization- i. before 27 April 1994; or ii. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"

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Definition of "Black Designated Groups"	"Black Designated Groups means: (a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution; (b) Black people who are youth as defined in the National Youth Commission Act of 1996; (c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act; (d) Black people living in rural and under developed areas; (e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;"

3. I hereby declare under Oath that:

- The Enterprise is_____% Black Owned using the flow-through principle as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is_____% Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is_____% Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- Black Designated Group Owned % Breakdown as per the definition stated above:
    - Black Youth % =_____%
    - Black Disabled % =_____%
    - Black Unemployed % =_____%
    - Black People living in Rural areas % =_____%
    - Black Military Veterans % =_____%

- Based on the Audited Financial Statements/Financial Statements and other information available on the latest financial year-end of_____(DD/MM/YYYY), the a NB! Revenue was R10,000,000.00 (Ten Million Rands) or less
- Please Confirm on the below table the B-BBEE Level Contributor, **by ticking the applicable box.**

100% Black Owned	**Level One** (135% B-BBEE procurement recognition level)	
At least 51% Black Owned	**Level Two** (125% B-BBEE procurement recognition level)	
Less than 51% Black Owned	**Level Four** (100% B-BBEE procurement recognition level)	

4. I know and understand the contents of this affidavit and I have no objection to take the

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prescribed oath and consider the oath binding on my conscience and on the Owners of the Enterprise which I represent in this matter.

5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

Deponent Signature:_____

Date:_____

NB! ORIGINALLY CERTIFIED/ NOT COPY

_____

Commissioner of Oaths
Signature & stamp
Date:

EXAMPLE OF POINT SCORING AND ALLOCATION OF PREFERENCE POINTS (80/20) WHERE LOCALITY AS A GOAL IS INCLUDED. STELLENBOSCH PREFERENTIAL PROCUREMENT POLICY.

BIDDER	PRICE	BBBEE LEVEL (VALID)	BUSINESS PREMISES (IN WC024)
TENDERER A	R 80 000	1	NO
TENDERER B	R 75 000	1	YES
TENDERER C	R 70 000	2	NO

BIDDER	PRICE POINTS (Out of 80)	BBBEE POINTS (Out of 10)	LOCALITY POINTS (Out of 10)	TOTAL POINTS (Out of 100)
TENDERER A	68.57	10	0	78.57
TENDERER B	74.29	10	10	94.29
TENDERER C	80	9	0	89

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11. 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:
   - 3.1. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
   - 3.2. been convicted for fraud or corruption during the past five years;
   - 3.3. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
   - 3.4. 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.

4.1	Is the bidder or any of its directors listed on the National Treasury's database as a company or person 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 National Treasury after the audi alteram partem rule was applied).*	**Yes**	**No**
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? *(To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445).*	**Yes**	**No**
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	**Yes**	**No**

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4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	**Yes**	**No**
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	**Yes**	**No**
4.5.1	If so, furnish particulars:		

5. 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:		NAME (PRINT):	
CAPACITY:		DATE:	
NAME OF FIRM:			

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12. MBD 9 – CERTIFICATE OF INDEPENDENT BID DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all bids 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).[4] 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:

   3.1. take all reasonable steps to prevent such abuse;

   3.2. 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

   3.3. 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:

CERTIFICATE OF INDEPENDENT BID DETERMINATION:

In response to the invitation for the bid made by:

STELLENBOSCH MUNICIPALITY

I, the undersigned, in submitting the accompanying bid, hereby make the following statements that I certify to be true and complete in every respect:

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:

[4] 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.

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5.1. has been requested to submit a bid in response to this bid invitation;

5.2. could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and

5.3. provides the same goods and services as the bidder and/or is in the same line of business as the bidder

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium[5] 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:
   7.1. prices;
   7.2. geographical area where product or service will be rendered (market allocation)
   7.3. methods, factors or formulas used to calculate prices;
   7.4. the intention or decision to submit or not to submit, a bid;
   7.5. the submission of a bid which does not meet the specifications and conditions of the bid; or
   7.6. bidding with the intention not to win the bid.

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

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

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

SIGNATURE:		NAME (PRINT):	
CAPACITY:		DATE:	
NAME OF FIRM:			

[5] *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.*

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13. MBD 10 – CERTIFICATE FOR PAYMENT OF MUNICIPAL SERVICES

DECLARATION IN TERMS OF CLAUSE 112(1) OF THE MUNICIPAL FINANCE MANAGEMENT ACT (NO.56 OF 2003)

I, _____, _____ (full name and ID no.), hereby acknowledge that according to SCM Regulation 38(1)(d)(i), the Municipality may reject the tender of the tenderer if any municipal rates and taxes or municipal service charges owed by the Tenderer or any of its directors/members/partners to the Stellenbosch Municipality, or to any other municipality or municipal entity, are in arrears for more than 3 (three) months.

I declare that I am duly authorised to act on behalf of _____ (name of the firm) and hereby declare, that to the best of my personal knowledge, neither the firm nor any director/member/partner of said firm is in arrears on any of its municipal accounts with any municipality in the Republic of South Africa, for a period longer than 3 (three) months.

I further hereby certify that the information set out in this schedule and/or attachment(s) hereto is true and correct. The Tenderer acknowledges that failure to properly and truthfully complete this schedule may result in the tender being disqualified, and/or in the event that the tenderer is successful, the cancellation of the contract.

PHYSICAL BUSINESS ADDRESS(ES) OF THE TENDERER	MUNICIPAL ACCOUNT NUMBER

FURTHER DETAILS OF THE BIDDER'S Director / Shareholder / Partners, etc.:

Director / Shareholder / partner	Physical address of the Business	Municipal Account number(s)	Physical residential address of the Director / shareholder / partner	Municipal Account number(s)

NB: Please attach certified copy (ies) of ID document(s) and Municipal Accounts If the entity or any of its Directors/Shareholders/Partners, etc. rents/leases premises, a copy of the rental/lease agreement or sworn affidavit must be submitted with this tender.

- **PLEASE SUBMIT MUNICIPAL ACCOUNTS FOR THE FOLLOWING TWO MONTHS AFTER BID CLOSURE TO THE RELEVANT SCM PRACTITIONER SHOULD THE BID NOT BE AWARDED YET.**

Signature	**Position**	**Date**

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14. COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993 (ACT 130 OF 1993)

COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993 (ACT 130 OF 1993)	
Stellenbosch Municipality has legal duty in terms of Section 89 of the said Act to ensure that all contractors with whom agreements are entered into for the execution of work are registered as employers in accordance with the provisions of this Act and that all the necessary assessments have been paid by the contractor. In order to enter into this agreement, the following information is needed regarding the above-mentioned:	
Contractor's registration number with the office of the Compensation Commissioner:	
NOTE: **A copy of the latest receipt together with a copy of the relevant assessment OR a copy of a valid Letter of Good Standing must be handed in, in this regard.**	

PRINT NAME:			
CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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15. FORM OF INDEMNITY

INDEMNITY

Given by (Name of Company) _____

of (registered address of Company) _____a

company incorporated with limited liability according to the Company Laws of the Republic of South Africa (hereinafter called the Contractor), represented herein by (Name of Representative) _____

_____in his capacity as (Designation) _____

of the Contractor, is duly authorized hereto by a resolution dated _____ /20___,

to sign on behalf of the Contractor.

WHEREAS the Contractor has entered into a Contract dated _____/ 20____, with the Municipality who require this indemnity from the Contractor.

NOW THEREFORE THIS DEED WITNESSES that the Contractor does hereby indemnify and hold harmless the Municipality in respect of all loss or damage that may be incurred or sustained by the Municipality by reason of or in any way arising out of or caused by operations that may be carried out by the Contractor in connection with the aforementioned contract; and also in respect of all claims that may be made against the Municipality in consequence of such operations, by reason of or in any way arising out of any accidents or damage to life or property or any other cause whatsoever; and also in respect of all legal or other expenses that may be incurred by the Municipality in examining, resisting or settling any such claims; for the due performance of which the Contractor binds itself according to law.

SIGNATURE OF CONTRACTOR:	
DATE:	
SIGNATURE OF WITNESS 1:	
DATE:	
SIGNATURE OF WITNESS 2:	
DATE:	

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PART B – SPECIFICATIONS AND PRICING SCHEDULE

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16. SPECIFICATIONS

19.1 GENERAL

19.1.1 I / We the undersigned, hereby acknowledge myself / ourselves fully conversant with the details and conditions as set out in the Specification and with the Conditions of Tendering and General Conditions of Purchase and Conditions of Tender attached hereto, and hereby agree to supply and deliver material for a period of 3 years ending 30 June 2025, in accordance therewith.

19.1.2 Bidders must submit at least one reference letter from previous clients for each item(s) tendering for as confirmation that they have supplied such material previously. Failure to attach such reference letter(s) will lead to the disqualification of the bid.

19.1.3 Prices shall be **fixed for the duration of each financial year**. The bidder shall offer prices in this bid that will be valid and fixed as from commencement date of this contract to 30 June 2025 (end of first contractual municipal financial year). During the first month of each financial year (July), the successful bidder will have the opportunity to adjust the offered prices in this bid based on SEIFSA's CPA (Consumer Price Adjustment). The bidder shall offer supporting documentation to the Municipality to justify any price adjustment that might be required. The successful bidder shall be responsible to contact the client to ensure that any price adjustment requests are requested and implemented accordingly. The price adjustment phase will only be valid during the first month of each financial year. Should this opportunity be missed by the successful bidder, the Municipality will deem the previous financial year's rates as valid for the duration of the following financial year and same rates will be used as a base rate for the next price adjustment the following year. The successful bidder will under these circumstances be forced to accept these conditions as part of this contract commitment.

19.1.4 The estimated quantities indicated in the pricing schedule are only for evaluation purposes. The municipality can order more or less than the estimated quantities and therefore such estimated quantities are not bidding to the municipality to order such quantities.

19.1.5 All other supporting documentation must be attached to the bidder's offer and tender document.

19.1.6 This tender document must not be dismembered (do not take it apart or put documents between its pages). The tender document and all relevant specifications and attachments thereto must be bound together in a suitable binder.

19.1.7 The Tenders shall include the cost of all arrangements necessary for the actual delivery of the goods into the municipal store, where applicable, and **include VAT** in the prices quoted.

19.1.8 All goods to be supplied delivered and off-loaded to (unless specified otherwise for specific items):

a) Municipal Stores, Beltana Complex, Helshoogte Road, Stellenbosch.
GPS co-ordinates: Latitude -33.9268 Longitude 18.8821

19.1.9 Products offered shall only be newly manufactured. No second hand or refurbished items will be accepted.

PRINT NAME:			
CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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19.1.10 The bidder must be able to present and demonstrate the features of his/her offer during the evaluation stage of the tender if requested by the Municipality of Stellenbosch.

19.1.11 Each bidder shall issue data sheets/technical information for all the items offered as supporting documentation to his/her offer:

20.1.1 Bidders will be evaluated for compliance to specification. Bidders who do not comply with the specification will not be evaluated further.

20.1.2 The tender will be awarded to the successful bidders per item complying to. The tenders will then be put in a roster and the bidder with the highest points will get the first preference. Should the bidder not be in a position to supply and deliver on the request, then it shall default to the next highest bidder.

20.1.3 Bidders are to indicate "**Yes**" for compliance to specification or **"No"** for not complying to specification for all items in this tender,

21.1 DECLARATION

21.1.1 I/We certify that the percentage of local content as indicated against each item on this tender is correct and in accordance with the definition of "Local content", "Imported content" and "Landed cost at factory" included in the Annexure C to the General Conditions of Purchase and Conditions of Tender.

21.1.2 I/We certify that the goods comply with the specification attached. Where the goods offered partially deviates from the specifications or an alternative offer is proposed, a list highlighting all deviations per item shall be attached to this document.

21.1.3 I/We undertake to deliver the goods in accordance with the delivery period(s) stated above, calculated from the date of receipt of the Council's official order(s).

21.1.4 I/We agree to hold my/our tender open for acceptance by the Municipality for a period of 180 days from the date on which, in terms of the advertisement calling for tenders, such tenders are returnable.

PRINT NAME:			
CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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SECTION A: METERING MATERIAL, EQUIPMENT AND ACCESSORIES

A1 METER SEALS

No.	Description		
A1.1	**GENERAL**		
A1.1.1	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design. This specification covers the requirements for meter seals to be used to seal the pre-payment meters. The specific requirements for Stellenbosch Municipality are specified below. Transparent polycarbonate Bar-coded Wire Meter Seals shall comply with the following minimum specifications: Where conflicting requirements with the standards occur, this specification shall take precedence.		
A1.2.	**SPECIFICATIONS**	**YES**	**NO**
a.	Shall be constructed from UV, heat, salt, glow wire and pollution-resistant Polycarbonate material.		
b.	Shall be transparent to ensure quick visual verification of the seal's integrity.		
c.	The seal body shall be white or green or blue or clear or black or Orange in color		
d.	Consist of a hollow capsule and anchor type insert, connected by a molded thread.		
e.	The wire tail shall be constructed from double-spiraled stainless-steel wire, not thicker than 1.5mm in diameter		
f.	Upon insertion of the anchor into the hollow capsule, the 'legs' or 'barbs' shall become permanently retained behind the inner stops of the capsule such that the anchor cannot be withdrawn. This is considered a high security closure.		
g.	The overall size of the seal shall not exceed 50mm (L) x 15mm (W) x 2mm (T), where L = Length, W = Width and T = Thickness		
h.	The numbering shall be Laser printed and bar-coded in black on a white background for enhanced scan-ability. The seal must also have a corresponding human readable number in which all the characters must be represented in the bar-code. This human readable number must also be printed on the white background for improved legibility.		
i.	The seals must be sequentially numbered without any duplicates, with a minimum number of 7 characters.		
j.	The seal print can be a generic print, and this must be laser printed above the barcode strip in black lettering on a white background.		
k.	The seal print can be a generic print, and this must be laser printed above the Barcode strip in black lettering on a white background.		
l.	The seal is typically used to seal electricity meters by feeding the wire tail of the seal through the meter cover and hole of the meter sealing screw and anchoring to the body of the seal by hand. The end of the wire tail is inserted through a hole on the arrow-head portion and the size of the loop, created by the tail is minimized by pulling. The wire is held between forefinger & thumb and pressed downwards to run along a groove. The arrow-head portion is then pushed by hand to engage in the capsule. Once heard. The arrowhead cannot be withdrawn once engaged. Should		

PRINT NAME:			
CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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	the seal be forcibly opened, the polycarbonate material will shatter, and very visible signs of tampering will be displayed.		
A1.3	**DOCUMENTATION**		
a.	Technical data sheets of product offered must be submitted with the tender document by the closing date		

A2. STS COMPLIANT PRE-PAYMENT METERS

No.	Description
a.	**GENERAL** Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design. It is compulsory that all pre-payment meters be supplied pre-configured at the suppliers factory with a base date of 2014 to comply with STS Edition 2 specification. Bidders to provide, attached to their tender submission, a written confirmation that their prepaid meters will be pre-configured with a base date of 2014 before delivery to the municipality. Bidders who do not provide such confirmation will not be evaluated further

A2.1	SINGLE PHASE WALL MOUNTED STS METER			Yes	No
A2.1.1	**Ratings**				
	Voltage Ratings				
a.	Nominal Voltage (-20% + 15%)	110VAC -127VAC	220VAC 2240VAC		
b.	Supply Frequency	±2%	50Hz/60Hz		
c	Current Ratings	Base 5A	Max 80A		
d.	Base Current	5A			
e	Max Current	80A			
f	Minimum Starting	Class 1 20mA			
g	Utilization Category	UC2			
h	**Nominal Power Consumption**	1.6W/9VA			
i.	**Accuracy**	Class 1			
j.	**Over voltage rating**	420 VAC for 48 hours			
k.	**Short Circuit Rating**	2.5kA			
l.	**Protection**	Power Overload Current Overload Over /Under voltage Line / Load reversal			
m.	**Environmental** Operating Temp Storage Temp Humidity IP Rating RF Immunity	 -10°C to + 55°C -25°C to +70°C 95% non-Condensing IP 51 30V/m			
n.	**Status Indicator**	Rate LED (1000 pulses/ kWh)			
o.	**Installation** Footprint Insulation Class	 Common Wall base Double Insulation			
p.	**Terminals**	Live –bus bars	Neutral - Bus bars		
q.	**Interrogation**	MC 171 direct probe			

PRINT NAME:			
CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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A2.1	SINGLE PHASE WALL MOUNTED STS METER		Yes	No
r.	**Security** Meter Housing Tamper protection	 Lead or Wire seals Plastic seals & Disconnection on tamper detection		
s.	**Standards**	OHSAS 18001:2007 IEC 62052-11 IEC 62053-21 IEC 62055-41 IEC 62056 -21 IEC 60068-2-27 IEC 60068-2-6 SANS 1524-1 ISO 14001:2004 ISO 9001:2008		
t.	**LCD display or LED indicators required**	Available credit in kWh Contactor status Rate indicator Token accepted Token rejected Load indicator Audible low credit warning Negative credit display		

A2.2	THREE PHASE WALL MOUNTED SPLIT METER ONLY DUAL FUNCTION (WIRED\RADIO FREQUENCY)		Yes	No
a.	**VOLTAGE:** Normal Voltage (-20% + 15%) Supply Frequency	 220VAC 50Hz		
b.	**Current:** Base Current Max Current Min starting current Utilization	 10A 100A 40mA UC2		
c.	**Nominal Power Consumption**	1.6W/9VA		
d.	**Accuracy**	Class 1		
e.	**Overvoltage rating**	420 VAC for 48 hours		
f.	**Short-Circuit Rating**	3.0kA		
g.	**Protection**	Power overload Current Overload Over / under voltage Thermal Overload Phase imbalance Galvanic isolation		
h.	**Environmental** Operating Temp Storage Temp Humidity IP Rating RF Immunity	 -10°C to + 55°C -25°C to +70°C 95% non-Condensing IP 54 30V/m		
i.	**Status Indicator**	Load / power status MCU / UIU communication		

PRINT NAME:			
CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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A2.2	THREE PHASE WALL MOUNTED SPLIT METER ONLY DUAL FUNCTION (WIRED\RADIO FREQUENCY)				Yes	No
		Rate LED (1000 pulses / kWh				
j.	**Installation:** Footprint Insolation class	 BS7856 Double insolation				
k.	**Terminals**	Live Cage clamp 25mm	Neutral Cage clamp 25mm	Communication Spring Clamp 0.7mm		
l.	**Security:** Meter Housing Terminal cover Tamper protection	 Security Seals Serialised plastic security seals Tamper terminal cover Load disconnection on tamper detection No power tamper				
m.	**Standards**	OHSAS 18001:2007 IEC 62052-11 IEC 62053-21 IEC 62055-41 IEC 62056 -21 IEC 60068-2-27 IEC 60068-2-6 SANS 1524-1 ISO 14001:2004 ISO 9001:2008				

A2.3	SINGLE PHASE DIN RAIL SPLIT METER ONLY DUAL FUNCTION (WIRED\RADIO FREQUENCY)			Yes	No
a.	Single Phase DIN Rail Split Meter Dual Function (Wired/Radio Frequency) Operated				
	Voltage Ratings:				
b.	Nominal voltage Supply Frequency	-20%+15% ±2%	220VAC-2240VAC 50Hz		
	Current				
c.	Base current Max current Min starting current Utilization category	5A 100A Class 1 20mA UC2			
d.	**Nominal Power Consumption**	1.6W/9VA			
e.	**Accuracy**	Class 1			
f.	**Overvoltage rating**	420 VAC for 48 hours			
g.	**Short-Circuit Rating**	3.0kA			
h.	**Protection**	Power Overload Current Overload Over/Under Voltage Delayed Reconnection Thermal Overload Line/Load Reversal Galvanic isolation			
h.	**Environmental**				
j.	Operating Temp Storage Temp	-10°C to + 55°C -25°C to +70°C			

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	Humidity IP Rating RF Immunity		95% non-Condensing IP 54 30V/m			
k.	**Status Indicator**		MCU/UIU communication Load / power status Rate LED (1000 pulses / kWh)			
l.	**Installation**					
m.	Footprint Insulation Class		DIN Rail Mounted (35mm) Double Insulation			
n.	**Terminals**					
o.		Live Cage clamp 25mm	Neutral Cage clamp 6mm	Communication Spring clamp 0.7mm		
p.	**Security**					
q. **r.**	Meter Housing Tamper protection		Security seals Tamper terminal cover. Load disconnection on tamper detection			
s.	**Standards**					
t.			OHSAS 18001:2007 IEC 62052-11 IEC 62053-21 IEC 62055-41 IEC 62056 -21 IEC 60068-2-27 IEC 60068-2-6 SANS 1524-1 ISO 14001:2004 ISO 9001:2008			
A2.3.1	**USER INTERFACE UNIT (UIU) hard wired**					
a.	**Display Information**		Status of AC supply Available credit Low credit warning Token reject / accept Previously entered STS tokens Meter status register Consumption data			
b.	**Displays**					
c.	Number of digits Character height Type Viewing area Enunciators		7 major / 2 minor 15mm / 7mm Liquid crystal 53mm x 30mm 10 segment bar graph			
d.	**Keypad**					
e.	Columns x rows Key press feedback Accessibility		3 x 4 Silicon rubber keys Visually impaired			
f.	**Communication Connection**		Hard wired			
g.	**Audible Feedback**		Key presses Token acceptance / rejection Low credit warning			
h.	**IP Rating**		54 (UIU 09) 51 (UIU 05)			
i.	**Standards**		IEC 620522-11			

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		IEC 62053-21 IEC 62055-41 SANS 1524-1 ISO 9001:2008 ISO 14001:2004 OHSAS 18001:2007		
A2.3.2	**WIRELESS USER INTERFACE UNIT (wUIU)**		**Yes**	**No**
a.	**Electrical Ratings**			
b.	Battery Size (Alkaline) No required Battery Voltage Operating Voltage Range Min Life span	AA 2 1.5V		
c.	**Customer displayed Information**			
d.		Status of Consumer AC Supply Available credit Low Credit Warning Token accept/Reject Previously entered STS Token Meter Status register		
e.	**Displays**			
f.	Number of digits Character height Type Viewing Area Enunciators	7 Major /2 minor 15mm / 7mm Liquid crystal display 53mm x 30mm 6 Icons and 10 segment bar graph		
g.	**Keypad**			
h.	Columns x rows Key press feedback Accessibility	3x 4 Tactile/silicon rubber Visually impaired		
i.	**Audible Feedback**	Key presses Token accepted / rejection		
j.		Low Credit warning		
k.	**ICASA approval**	Supply Rev number		
	Environmental			
l.	Operating temperature Storage temperature Humidity IP rating	-10°C to +55°C -25°C to +70°C 95% non-condensing 54		
A2.3.3	**WIRELESS METER INTERFACE UNIT (WMI)**		**Yes**	**No**
a.	Connectivity	Meter: Current loop / Galvanically isolated WMI: RF		
b.	**Electrical Rating**			

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c.	(mA) Operating voltage (Vdc)	**Current loop** 3 20	**Galvanically isolated** 2 12		
	Communication		RF Type: 433.05MHz to 434.790MHz (SRD band within the 10mW)		
d.	**RF Communication Distance**				
e.	Line of site Built up environment		100m 50m		
f.	**Insulation**				
g.	System classification Impulse		Mechanical 6kV		
h.	AC voltage		4kV (RMS) for 1 minute		
	ICASA Approved		**Supply Rev number**:		
i.	Terminals		Type: Drop Wire		
j.			Maximum size: 0.7		
k. **l.**	**Mounting**		DIN rail: 35mm Bandit strapping: 12.7mm		
	Environmental				
m.	Operating temperature Storage temperature		-10°C to +55°C -25°C to +70°C		
n.	Humidity IP rating		95% non-condensing 65		

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A2.4 WIRELESS EXTENSION DEVICE				
A2.4.1 a.	**Standards**	IEC 62051		
		IEC 62055-52		
		IEC 62056-21		
		IEC 60950-1		
		STS 101-1		
		SANS 60529		
		ISO 14001		
		ISO 9001		
		IEC 61000-4-2		
		IEC 61000-4-3		
		IEC 62055-51		
		IEC 62056-21		
		IEC 62055-41		
		EN 300 220		
		NRS 049-1:201		
A2.4.2	**Functionality**			
a.	Primary Function	Enable range of wireless enabled electricity prepayment meters and customers interface units in the case of building of foliage interference.		
b.	Secondary function	Provides communication interface for two-way communication network into backend system.		
A2.4.3	**Operational Requirements**			
a.	General	Support interfacing to minimum of 24 associated wireless enabled meter and customer interface units		
b.	Radio Channels	Ability to operate on multi radio channels		
c.	Channel capacity	Minimum 10 channels		
d.	Antenna	Must be tamper proof and inaccessible to outside agents		
e.	Compatible reticulation network	Single phase, 2-wire earthed neutral		
f.	Supply source	Single phase, 2-wire, direct connection		
g.	Compliance	Registered with ICASA		
		Supply reference number		
h.	Compatibility	Compatible with prepayment meters (item 2,3 & 8) where They are RF enable on the RF band specified herein		
A2.4.4	**Electrical Ratings**			
a.	Accuracy	kWh Class 1 (IEC 62053-21)		
	Normal voltage	230VAC		
	Frequency	50Hz ± 5%		
	Extended	0.55 Un to 1.2 Un		
	Voltage			
	Voltage withstand	1.9 Un to a minimum of 48 hours		
	Voltage circuit burden	2 W and 10 VA		
	Protective Class	Class II double insulated		
A2.4.5	**Mechanical Requirements**			
a.	Mounting	DIN Rail 35mm		
b.	Rating	IP 65		
c.	Impact Rating	IK09		
d.	Maximum Dimensions	250mm x 85mm x 38mm		

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e.	Material	UV stable polycarbonate		
f.	Resistance to heat & fire	As per IEC 60695-2-1		
g.	Resistance to spread of fire	UL94-VO rated @ 1.5mm		
A2.4.6	**EXTERNAL CONNECTIVITY**			
	AC Supply Cables			
a.	Material	Copper		
b.	Cable size	Min 1.25mm to 2.5mm		
A2.4.7	**Sealing**			
a.	Housing	Factory sealed		
b.	Security Sealing	All screws to be secured behind security bungs. Access to screws must require the destruction of the bung.		
A2.4.8	**Environment**			
a.	Area	Indoor / outdoor		
b.	Operating temperature	-10°C to + 55°C		
c.	Storage temperature	-10°C to + 70°C		
d.	Humanity	Max 90%, annual mean 75%		
e.	Life span	Minimum 10 years		
A2.4.9	**Insolation: Over Voltage & Surge Protection**			
a.	Insulation Classification	Protective Class II		
b.	Insolation level	4 kV rms for 1 minute		
c.	Over Voltage	440VAC for 48 hours		
d.	Surge immunity			
e.	Voltage impulse	In excess of 6kV,1.2/50µs (IEC 62052-11)		
f.	Current impulse	5kA/20 µs		
g.	Electromagnetic compatibility			
h.	Electrostatic discharge			
i.	Immunity to HF fields	15kV air discharge		
j.	Immunity to FTB Radio Interference Compliance Spec	80MHz to 2GHz@10V/m with load 80Mhz to 2GHz @30V/m no load 4 kV To comply with CISPR 22 IEC 61000-4-2; IEC 61000-4-3; IEC61000-4-4; IEC 61000-4-6; CISPR 22		
A2.4.10	**Communication Interface**			
	Type	RF wireless communication between metering and customer interface unit		
	Transmission frequency	433.05 to 434.79MHz SRD band		
	Max Power output	10mW ERP (10dBm)		
	Electromagnetic compatibility Electrostatic discharge	15kV, air discharge (IEC62055-31 § 7.8.2 and 10mW ERP (10dBm)		
	(enclosure) Electrostatic discharge (battery holder)	IEC62052-11 § 7.5.2) 8kV, (IEC62055-31 § 7.8.2 and IEC62052-11 §7.5.2)		
	Communication Range	400 m line of sight mounted 4m high on wooden pole		
	Identification			
	Serialization	Each device unique 11-digit number		
	Packaging	Individually packet with number printed on outside of box		

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	Identification	Packaging include the following •Name of Municipality •Contract number •Manufacturer •Manufacturer •Product model •Unique serial number •Date of manufacturer		

A2.5	SINGLE PHASE DIN RAIL SPLIT METER WITH INTEGRATED ANTENNAE			YES	NO
	Single Phase DIN Rail Split Meter				
	Dual Function (Wired/Radio Frequency) Operated				
	Voltage Ratings				
	Nominal voltage	-20%+15%	220VAC-		
	Supply Frequency		2240VAC		
			50Hz		
	Current				
	Base current	5A			
	Max current	100A			
	Min starting current	Class 1 20mA			
	Nominal Power Consumption	1.2W/9VA			
	Accuracy	Class 1			
	Over voltage rating	440 VAC for 48 hours			
	Short Circuit Rating	3.0kA			
	Protection	Power Overload			
		Current Overload			
		Over/Under Voltage			
		Delayed Reconnection			
		Thermal Overload			
		Line/Load Reversal			
	Environmental				
	Operating Temp	-10°C to + 55°C			
	Storage Temp	-25°C to +70°C			
	Humidity	95% non-Condensing			
	IP Rating	IP 54 Meter & user interface unit			
	RF Immunity	30V/m			
	Status Indicator	MCU/UIU communication			
		Load / power status			
		MCU/UIU communication			
		Rate LED (1000 pulses / kWh)			
	Installation				
	Footprint	DIN Rail Mounted (35mm)			
	Insulation Class	Double Insulation			
	Terminals	Live	Neutral		
		Cage clamp 25mm	Cage clamp 6mm		
	Interrogation	MC 171 direct probe			
	Type	USB type port (optional)			
		Radio Frequency			
	Security				
	Meter Housing	Security seals			
	Tamper protection	Tamper terminal cover			
		Load disconnection on tamper detection			

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	Standards	IEC 62052-11		
		IEC 62053-21		
		IEC 62055-21		
		IEC 62055-31		
		IEC 62055-41		
		IEC 62055-51		
		IEC 62055-52		
		SANS 1524-1		
		SANS 15417		
		ISO 14001:2004		
		ISO 18001:2007		
		ISO 9001:2008		
		DSP 34-749		
		DSP 34-1527		
		DSP 341635		
USERS INTERFACE UNIT: See Item 9.4.2 WIRELESS METER INTERFACE UNIT (WMI): See Item 9.4.3				

A2.6	**SINGLE PHASE DIN RAIL SPLIT METER POWER LINE COMMUNICATION**			**YES**	**NO**
	Voltage Ratings				
	Nominal voltage	80% to 115%	220/240VAC		
	Supply Frequency		50Hz		
	Current				
	Base current	5A			
	Max current	80A			
	Nominal Power Consumption	Less than 2W/10VA			
	Accuracy	Class 1 – Active Energy			
	Over voltage rating	440 VAC for 48 hours			
	Short Circuit Rating	3.0kA			
	Protection	Power Overload			
		Current Overload			
		Over/Under Voltage			
		Delayed Reconnection			
		Thermal Overload			
		Line/Load Reversal			
	Environmental				
	Operating Temp	-15°C to + 55°C			
	Storage Temp	-25°C to +70°C			
	Humidity	95% non-Condensing			
	IP Rating	IP 54 Meter			
	RF Immunity	30V/m			
	Status Indicator	MCU/UIU communication			
		Load / power status LED			
		MCU/UIU communication LED			
		LED to indicate tamper status and conditions			
		Rate of consumption LED (1000 pulses / kWh)			
	Installation				
	Footprint	Bottom Connect DIN rail mount			
	Insulation Class	Double Insulation			
	Terminals	Live	Neutral		
		Cage clamp 35mm	Cage clamp 35mm		
	Interrogation	MC 171 direct probe			
	Type	USB type port (optional)			

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A2.6	SINGLE PHASE DIN RAIL SPLIT METER POWER LINE COMMUNICATION		YES	NO
		Radio Frequency		
	Security			
	Meter Housing	Security seals		
	Tamper protection	Tamper terminal cover		
		Load disconnection on tamper detection		
	Standards	IEC 62052-11		
		IEC 62053-21		
		IEC 62055-21		
		IEC 62055-31		
		IEC 62055-41		
		IEC 62055-51		
		IEC 62055-52		
		SANS 1524-1		
		SANS 15417		
		ISO 18001:2007		
		ISO 9001:2008		
		DSP 34-749		
		DSP 34-1527		
		DSP 341635		
A2.6.1	**Customer Interface Unit (CIU) Power Line (Plug-in)**			
	User interface	12 Digit keypad with tactile and audio feedback		
	User Display	8 Digit LCD with language independent icons		
	Consumption display	LED		
	Communication circuitry	CENELEC A compliant PLC		
	IP rating	IP52		
	Installation type	Wall mounting (into mains socket outlet)		
	User batteries	2 x Type AA		
	Size (W x L)	106 x 137		
A2.6.2	**Customer Interface Unit (CIU) Power Line (Common base)**			
	User interface	12 Digit keypad with tactile and audio feedback		
	User Display	8 Digit LCD with language independent icons		
	Consumption display	LED		
	Communication circuitry	CENELEC A compliant PLC		
	IP rating	IP52		
	Installation type	Mounted on top of a common base on the wall		
	User batteries	None		
	Size (W x L)	148 x 260mm		

A2.7	DATA CONCENTRATOR UNIT(DCU)		
	General requirements	**Yes**	**No**
	The data concentrator unit must be able to collect and write data from the meters in item 9.5		
	DCU must be able to detect tempered meters, do meter readings, do remote disconnection of meters as required by the backend system (AMI or Vending system)		
	Must be able to give GPS locations		
	Must have indicator LED's one indicating status on power supply and the other status of communication.		

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	Voltage Rating				
	Nominal voltage	230VAC (-48% +15%)			
	Supply frequency	50Hz			
	Current Rating				
	Base current	47mA			
	Installation				
	Footprint	Wall or DIN rail mounted			
	Environment				
	Standard operating temperature	-10°C to + 55°C			
	Storage temperature	-25°C to + 70°C			
	Communication				
	Ethernet	Full –duplex with auto-negotiation IPv4, DHCP, DNS or static IP configuration			
	Plug-in GSM module	Quad-band GSM850, EGSM900,DCS1800,PCS1900 integrated antenna			
	Protocol	Must communicate using RF with prepaid meters			
	Battery				
	Type	Lithium >1.8A rechargeable			
	Battery volts	3V			
	Battery life span	3 to 5 years			

A2.8	**DOCUMENTATION**			
	Type test certificates (1 set) Installation, operating and maintenance instructions (5 sets) Details of special tools required (1 set) Detailed list of spare parts (1 set) Calibration Certificate	Required Required Once off Once off Required		

A2.9	**GENERAL**		
	Every meter delivered shall be pre-programmed with the following unless otherwise specified: Tariff index: 01 Supply Group Code: 000402 Units: 5 Power limit 13.8kW Base date 2014 or newer (STS6 ready)		

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A3 FOUR QUADRANT ELECTRONIC DEMAND AND ENERGY METERS

A3.1 Scope

This contract calls for the suppliers to submit quotations to supply and deliver three phase four quadrant electronic demand and energy. Meters to be supplied are.

NO	Item description
A3.1.1	Solid State Programmable whole current meters, 400V, 20A -100A
A3.1.2	Plug-in General Packet Radio Services (GPRS) modem with external antenna for Item A3.1.1
A3.1.3	Transformer operated four quadrant programmable meters, 400V, 5A(10A)
A3.1.4	Plug-in General Packet Radio Services (GPRS) modem with external antenna for Item A3.1.3
A3.1.5	Single phase direct connected bi-directional energy meters, 230V, 100A (not prepaid meters)
A3.1.6	Plug-in General Packet Radio Services (GPRS) modem with external antenna for Item A3.1.5

The energy meters to be supplied are required for Large Power Users and commercial use within Stellenbosch Municipality electrical network for the purpose of metering Small Scale Embedded Generation and are to be read remotely via a GPRS modem.

A3.2 Applicable standards

The equipment shall conform in all respects with a relevant national standard. The standards below are applicable to both item **A3.1.1**, **A3.1.3** and **A3.1.5**

Compliance with standard specifications		**YES**	**NO**
a. Watt-hour meters – Alternating Current (AC) electronic meters for active energy	SANS 1799 -2004		
b. Electricity Metering Equipment (AC) – general requirements, test, and test conditions – Part 11: Metering equipment	SANS 62052 Part 11 – 2003		
c. Electromechanical meters for active energy (Classes 0.5 1 and 2)	SANS 62053-11. (Part 11)		
d. Static meters for active energy (Classes 0.2S and 0.5S)	SANS 62053-22 (2003). Part 22 Replaced 60687 (1992)		
e. Electricity Metering Equipment (AC) – requirements Part 21: Static meters for active energy (Classes 1 and 2)	SANS 62053 Part 21 – 2003		
f. Electricity Metering – Data exchange for meter reading, tariff and load control – Part 21: Direct local data exchange	SANS 62056 Part 21 2003		
g. Automated Meter Reading for Large Power Users	SANS 473: 2006(NRS 071:2004)		
h. Code of Practice for Electricity Metering	SANS 474: 2006(NRS 057:2005)		

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A3.3 Technical specification

A3.3.1 Ratings for item A3.1.1

	Unit	Value	YES	NO
a. Rated Voltage	V_{rms}	230/400		
b. Rated Maximum Amperage	A	100A		
c. System Frequency	Hz	50		
d. Accuracy Class(kWh)		1		
e. Accuracy class(kVArh)		2		

A3.3.2 Ratings for item A3.1.3

	Unit	Value	YES	NO
a. Rated Voltage	V_{rms}	230/400 and 6.53/110(software selectable)		
b. Rated Maximum Amperage	A	5A(10A)		
c. System Frequency	Hz	50		
d. Accuracy Class(kWh)		1		
e. Accuracy class(kVArh)		2		

A3.3.3 Ratings for item A3.1.5

	Unit	Value	YES	NO
a. Rated Voltage	V_{rms}	230V		
b. Rated Maximum Amperage	A	100A		
c. System Frequency	Hz	50		
d. Accuracy Class(kWh)		1		
e. Meter Constant (LED flash rate)		1000 imp/kWh		

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A3.3.4 Constructional requirements for both item A3.1.1 and A3.1.3

		YES	NO
1. Network and connection type	Three phase 4 wire		
2. Measuring	kW, kWh, kVAr and kVArh all import and export values. Power factor.		
3. Ingress Protection (IP) rating	51 minimum		
4. Meter sealable (terminal cover)	Required		
5. Display	Liquid Crystal Display and be able to display up to 7 digits		
6. Minimum life expectancy	10 years minimum		
7. Terminal arrangement and diameter size	BS5685, 50 mm^2 or higher (item1.1) And 2.5mm2 or higher (item 1.3)		
8. Optical Port (IEC 620556-21)	Required		
9. Auxiliary terminal must be fixed, and no additional attachments must be required	Fixed 6 x Pulse outputs and 4 x input pulses		
10. Communication port	RS 232(RJ12/RJ45) and		
	RS485(RJ12/RJ45)		
11. The meter shall retain the reading in memory in the event of a power failure.			
12. Means of powering the LCD display in the event of a power failure to be included as an optional extra if available.			
13. Meters to be compatible to Automatic Meter Reading. Details of the AMR compatibility shall be specified by the bidder.			
14. The successful bidder must provide the latest version of meter programming software, the complete installation thereof, adequate training and software manuals must be provided without cost prior to the supplying of meters			
15. All meters shall be calibrated at an accredited calibration laboratory and supplied with a calibration certificate.			
16. Failure to provide proof of certification may result in **non-compliance** on the tender.			
17. The meters must be suitable for surface mounting with front connections.			
18. The meter lower fixing screws shall only be accessible after breaking the terminal cover seal and removing the cover.			
19. A wiring diagram of the connections shall, be fixed to the inside of terminal cover.			
20. The meters must have internal battery.			
21. The battery lifespan must be at least 3 years.			
22. The following facilities and programmable capabilities shall be provided: (a) A sealable manual reset button			
(b) The maximum demand readings must be date and time stamped.			
(c) The period of integration for the maximum demand shall be programmable to accommodate a 5 minute to a 60-minute setting.			
(d) A minimum of four programmable pulse outputs to accommodate kWh, kVAh or (kVArh -lag or lead), integration period reset, and month end reset. The output pulses must be voltage free, capable of switching 230 V AC and must be of an **impulse action type**.			
23. Time of use (TOU) (a) Meters must be fully programmable to accommodate Time-Of-Use (TOU) rates for a minimum of 7 TOU active energy registers which include a totalized energy register. (b) Must have a minimum of 4 seasons			

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(c) Must have a minimum of 10 tier switches per day		
24. Access to allow for uploading (modification) of tariff schemes shall only be by means of unique passwords.		
25. Display requirements (Must have at least two display modes)		
26. DISPLAY MODE 1 minimum requirements 1) tariff name 2) date and time 3) energy and demand registers		
27. DISPLAY MODE 2 minimum requirements 1) voltage on each element 2) current on each element 3) instantaneous active power 4) instantaneous reactive power 5) instantaneous apparent power 6) instantaneous power factor 7) instantaneous active power on each element		
28. All items shall be fitted with an internal clock with a time drift of not more than 1 second per day.		
29. The meters must have memory capacity to store at least 4 channels of load profile data (30-minute integration period) for a minimum period of at least four months.		
30. The software to program and access and utilize all available Features and facilities of the meters shall be supplied at no cost. Upgrade software revisions shall be supplied at **no cost** when it becomes available. This software must be Microsoft windows compatible.		
31. Communication protocol shall be provided to any third party on request for AMR implementation at no charge.		
32. Suppliers could be requested to demonstrate their offered meter's AMR software capability on Council's existing system to determine compatibility. If not, the successful supplier must provide infrastructure at the Bidders cost, to achieve the functionality.		
33. Makings and labeling shall be according to the relevant standard		
34 Programmable display sequence with English display descriptors		
35 Meter must have no keypad. Only buttons to scroll the menu, reset and display information must be on the meter.		

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A3.3.5 Constructional and general requirements for item A3.1.5

		YES	NO
1 Network and connection type	Single phase 2 wire		
2. Measuring	kW, kWh, kVAr and kVArh all import and export values. Power factor.		
3. Ingress Protection (IP) rating	51 minimum		
4. Meter sealable (terminal cover)	Required		
5. Display	Liquid Crystal Display and be able to display up to 7 digits		
6. Minimum life expectancy	10 years minimum		
7. Terminal arrangement and diameter size	BS5685, 35 mm^2 or higher		
8. Optical Port (IEC 620556-21)	Required		
9. The meter shall retain the reading in memory in the event of a power failure.			
10. Means of powering the LCD display in the event of a power failure to be included as an optional extra if available.			
11. Meters to be compatible to Automatic Meter Reading. Details of the AMR compatibility shall be specified by the bidder.			
12. The successful bidder must provide the latest version of meter programming software, the complete installation thereof, adequate training and software manuals must be provided without cost prior to the supplying of meters			
13. All meters shall be calibrated at an accredited calibration laboratory and supplied with a calibration certificate.			
14. Failure to provide proof of certification may result in **non-compliance** on the tender.			
15. The meters must be suitable for surface mounting with front connections.			
16. The meter lower fixing screws shall only be accessible after breaking the terminal cover seal and removing the cover.			
17. A wiring diagram of the connections shall, be fixed to the inside of terminal cover.			
18. The meters must have internal battery.			
19. The battery lifespan must be at least 3 years.			
20. The following facilities and programmable capabilities shall be provided: (a)A sealable manual reset button			
(b) The maximum demand readings must be date and time stamped.			
(c) The period of integration for the maximum demand shall be programmable to accommodate a 5 minute to a 60 minutes setting.			
21. Time of use (TOU) (a) Meters must be fully programmable to accommodate Time-Of-Use (TOU) rates for a minimum of 7 TOU active energy registers which include a totalized energy register. (b) Must have a minimum of 4 seasons (c) Must have a minimum of 10 tier switches per day			
22. Access to allow for uploading (modification) of tariff schemes shall only be by means of unique passwords.			
23. Display requirements (Must have at least two display modes)			
23.1 DISPLAY MODE 1 minimum requirements 4) tariff name 5) date and time 6) energy and demand registers			
23.2 DISPLAY MODE 2 minimum requirements 8) phase voltage 9) Phase current 10) instantaneous active power 11) instantaneous reactive power			

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12) instantaneous power factor		
24. All items shall be fitted with an internal clock with a time drift of not more than 1 second per day.		
25. The meters must have memory capacity to store at least 4 channels of load profile data (30-minute integration period)		
26. The software to program and access and utilize all available Features and facilities of the meters shall be supplied at no cost. Upgrade software revisions shall be supplied at **no cost** when it becomes available. This software must be Microsoft windows compatible.		
27. Communication protocol shall be provided to any third party on request for AMR implementation at no charge.		
28. Suppliers could be requested to demonstrate their offered meter's AMR software capability on the Council's existing system to determine compatibility. If not, the successful supplier must provide infrastructure at the Bidders cost, to achieve the functionality.		
30. Makings and labeling shall be according to the relevant standard		
31 Programmable display sequence with English display descriptors		

A3.3.6 Technical specification for items A3.1.2, A3.1.4 and A3.1.6

A3.3.6.1 Requirements

	YES	NO
a. Plug-in modem to be power from the meters power supply		
b. Plug-in modem to be GPRS enabled and be able to be configured for Stellenbosch APN		
c. Software to configure the modem to be supplied at **no cost**		
d. Plug-in modem must have a slot to insert a standard or micro or nano SIM Card if no SIM card slot available modem must have a chip SIM (Please specify)		

A3.3.6.2 Documentation (for items A3.1.2, A3.1.4 and A3.1.6)

		Yes	No
a. Type test certificates (1set)	**Required**		
b. Installation, operating and maintenance instructions (1 sets)	**Required**		
c. Details of special tools required (1 set)	**Required**		
d. Calibration Certificate	**Required**		

A4. GPRS EXTERNAL MODEMS

A4.1 GENERAL

Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design.

A4.2 COMPLIANCE

Proof of ICASA registration of the device must be issued with the bid.

All requirements shall be offered as a complete standard package unit. No separate additional features/units required for the modem to conform to our specification will be accepted.

Bidder shall have available technical support (technicians) for possible callouts, site assistance as well as repairs on modems. Supporting documentation shall be issued.

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A4.3 MODEM REQUIREMENTS

No	Description	Yes	No
A4.3.1	**General**		
A4.3.1.1	The housing shall be manufactured of plastic or similar with connection information indicated on the faceplate.		
A4.3.1.2	The overall dimension of the unit shall not exceed 130mm in width, 80mm in height and 60 mm in depth.		
A4.3.1.3	The unit shall be DIN rail mounted.		
A4.3.1.4	Modems shall have intelligent power management with "Watchdog" processor to manage the operation by resetting the modem under certain conditions. The modem shall reset under the following conditions:		
	a. No network communication for two minutes		
	b. A maximum call duration of one hour		
	c. Periodic time out (twice a day)		
A4.3.1.5	Modem must allow SMS configuration (APN parameters) as and additional option to the configuration by a physical communication cable and be remotely managed		
A4.3.1.6	Modem must be able to switch between CSD and GPRS connections		
A4.3.1.7	APN configuration to be stored in a modem		
A4.3.1.8	Modem must have; a. 1 x slot for standard SIM card and		
	b. 2 x chip SIM ready (1 x Vodacom and 1 x MTN)		
A4.3.1.9	Temperature range: -10 to +55 Degrees Celsius		
A4.3.2	**POWER SUPPLY REQUIREMENTS**		
a.	Power supply shall range between 90VAC – 260VAC		
b.	Power output: 2 Watt		
A4.3.3	**NETWORK FEATURES**		
a.	Dual Band 900 / 1800 MHz		
b.	AT Command set		
c.	ETSI GSM Phase 2+ compliance		
d.	GPRS Class 10 (2G)		
A4.3.4	**CONNECTIONS PORTS**		
A4.3.4.1	Modem must have two connection ports which are; 1. RS232 housed in RJ12		
A4.3.4.2	2. RS485 housed in RJ12		
A4.3.4.3	Antenna connection must be a SMA (female)		
A4.3.5	**STATUS INDICATORS**		
A4.3.5.1	The modem must have the following LED indicators a. Power on/off indicator		
	b. GSM/GPRS status indicator		
	c. Transmit indicator – to indicate outgoing data		
	d. Receive indicator – to indicate incoming data		
A4.3.6	**PROGRAMMING CAPABILITY(ARCHITECTURE)**		
A4.3.6.1	The microcontroller of the modem must have a firmware that supports the following features;		
	a. TCP/IP Server		
	b. CSD Server		
	c. SMS Server		
A4.3.7	**ANTENNA**		
a.	Antenna must have a magnetic base with 5dBi gain and with a 3-meter cable		

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A5. SMALL POWER DISTRIBUTION BOARDS (READY BOARDS)

A5.1	**GENERAL**			
a.	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully Responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality Shall not relieve the supplier of the responsibility for the adequacy of the design.			
b.	This specification covers the requirements for small power distribution boards. The small power distribution boards shall be manufactured in accordance with SANS 1619. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 1619 occur, this Specification shall take precedence.			
A5.2	**COMPLIANCE WITH STANDARD SPECIFICATIONS**		**Yes**	**No**
a.	Small power distribution units (ready boards) single-phase 230V service connections	SANS 1619 –2006		
b.	Earth leakage protection units –Part 1: Fixed earth leakage protection units	SANS 767 Part 1-1982		
A5.3	**CONSTRUCTIONAL REQUIREMENTS**		**Yes**	**No**
a.	General	Extendible (As per SANS 1619)		
b.	Material	Polycarbonate		
c.	Front Cover	Hinged		
d.	Colour	white		
e.	Mounting	Bracket		
A5.4	**MARKING AND LABELING**		**Yes**	**No**
a.	As per SANS 1619			
A5.5	**DOCUMENTATION**		**Yes**	**No**
a.	Type test certificates (1set)	Required		
b.	Routine test certificates (1set)	Required		
c.	Circuit diagram (1set)	Required		
d.	Installation, operating and maintenance instructions(3sets)	Once off Required		
e.	Certificate of compliance with SANS 1619 & SANS 10142-1	Required		
A5.6	**GENERAL**		**yes**	**no**
a.	Earth leakage unit with overload protection	1 x 20A		
b.	Switched socket outlets	1 x 16A Double plug1 x 16A Double plug 1 x 16A Combination euro plug, wired from MCB/neutral bar (as per sub clause 4.6.2.c of SANS 1619)		
c.	Single phase 2.5kA MCB 's	2 x 20A		
d.	Bulkhead light fitting mounted on top of board	1 x 14w energy saver		
e	Light switch	1 (protected by one of the 20A MCB 's)		

A6. LOW VOLTAGE INSTRUMENT CURRENT TRANSFORMERS

No	**Description**			
A6.1	**General**			
	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design. This specification covers the requirements for small power distribution boards. The small power distribution boards shall be manufactured in accordance with SANS 60044 The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 60044 occur, this specification shall take precedence.			
A6.2	**Compliance with standard specifications**		**Yes**	**No**
	Instrument transformers: Part 1 Current Transformers	SANS 60044 Part 1 –2003		

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A6.3	Constructional Requirements – General		Yes	No
	Type Fully Encapsulated Insulation Mounting Ring Mounting Square Secondary wiring terminals Terminal housing Ring/Square	Ring/Square Required Suitable for indoor use Slots brackets for panel mounting Fitted with screws to fit to buss bar Brass Sealable		
A6.4	**General notes**		**Yes**	**No**
	1.Name plates shall be of metal with the details indelibly marked thereon and shall be riveted to the base or fixed to the transformer in a position where it can be easily read. 2. No paper, plastic or similar labels are acceptable. 3. All terminals shall be clearly marked that they are visible from the outside. 4.Failure to provide proof of certification may result in non-compliance on the tender			
A6.5	**Marking and labelling**		**Yes**	**No**
	As per relevant SANS document			
A6.6	**Documentation**		**Yes**	**No**
	Type test certificates(1set) Installation, operating and maintenance instructions (1set) Calibration Certificate	Required Required Required for each ct		
A6.7	**General**			
	Price to include supply of goods and delivery to the Municipal Store in Stellenbosch. Equipment shall only be newly manufactured. No second hand or refurbished equipment.			

A6.1.1 ROUND TYPE INSTRUMENT CURRENT TRANSFORMERS

ITEM	Range	Inner Diameter	VA	Class	Fault Rating	Rated Voltage	System Frequency
A6.1.1.1	100/5	36mm	10	0.5	20Ka for 1s	Vrms 600	50 Hz
A6.1.1.2	150/5	36mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.3	200/5	36mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.4	250/5	57mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.5	300/5	63mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.6	350/5	63mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.7	400/5	63mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.8	500/5	71mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.9	600/5	71mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.10	700/5	86mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.11	750/5	86mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.12	800/5	86mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.13	1000/5	86mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.14	1200/5	86mm	10	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.1.15	1600/5	86mm	10	0.5	20kA for 1s	Vrms 600	50 Hz

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A6.1.2 SQUARE TYPE INSTRUMENT CURRENT TRANSFORMERS

ITEM	Range	Inner Diameter	VA	Dimensions	Class	Fault Rating	Rated Voltage	System Frequency
A6.1.2.1	100/5	32m	5	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.2	150/5	32m	5	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.3	200/5	32m	5	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.4	250/5	32m	10	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.5	300/5	32m	10	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.6	350/5	32m	10	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.7	400/5	32m	15	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.8	500/5	32m	15	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.9	600/5	32m	15	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.10	700/5	32m	15	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.11	750/5	32m	15	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.12	800/5	32m	15	H)89 x (W)70 x (D)40mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.13	1000/5	85mm	15	(H)188 x (W)172 x (D)35mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.14	1250/5	85mm	15	(H)188 x (W)172 x (D)35mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.2.15	1600/5	85mm	15	(H)188 x (W)172 x (D)35mm	0.5	20kA for 1s	Vrms 600	50 Hz

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A6.1.3 SQUARE TYPE INSTRUMENT CURRENT TRANSFORMERS – SPLIT CORE

ITEM	Range	Inner Diameter	VA	Dimensions	Class	Fault Rating	Rated Voltage	System Frequency
A6.1.3.1	100/5	32m	5	H145mmxW144mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.2	150/5	32m	5	H145mmxW144mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.3	200/5	32m	5	H145mmxW144mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.4	250/5	32m	10	H145mmxW144mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.5	300/5	32m	10	H145mmxW144mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.6	350/5	32m	10	H145mmxW144mm x D80MM	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.7	400/5	32m	15	H145mmxW144mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.8	500/5	32m	15	H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.9	600/5	32m	15	H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.10	700/5	32m	15	H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.11	750/5	32m	15	H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.12	800/5	32m	15	H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.13	1000/5	85mm	15	(H)245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.14	1250/5	85mm	15	H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz
A6.1.3.15	1600/5	85mm	15	(H245mm x W184mm x D80mm	0.5	20kA for 1s	Vrms 600	50 Hz

A.6.1.4 PVC Compression Glands No 1Black / White

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
A6.1.4.1	• Material Polyamide • Dimensions Height: 22.00 mm Width: 25.00 mm Weight: 9.50 gms Depth: 40.00 mm		

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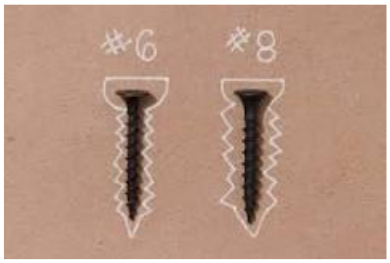
A 6.1.5 Drywall Screw 6mm & 8mm

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
A6.1.5.1	• Dimensions SCREW - DRY WALL 6 X 30MM / 200 - COURSE THREAD, DRY WALL SCREWS, LOW CARBON STEEL, BLACK PHOSPHATE, BUGLE HEAD, PHILIPS 2 6- & 8-gauge drywall screw No.6 3.5x25mm (350) H1B260 • nonslip flat heads Diameter: 6 & 8 mm • Length: 30 mm • Head type: Star or Phillips • Material: Mild steel • Finish: Black oxide or polished • Drive type: Phillips (PH2) • Coating: Zinc or black phosphate		



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A 6.1.6 6X30MM WALL ANCHOR PLUG (NYLON) AND SCREWS

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
A6.1.6.1	PLUG COLOUR Grey, SCREW DIAMETER 6X40 mm		

A 6.1.7 3-PHASE 4-WIRE WATT-HOUR STATIC RESIDENTIAL METER

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
A6.1.7.1	Clearly structured LCD An optical data interface SPECIFICATION • 3x230/400V • 50Hz • 5 (100) A • Ra=500 Imp/kWh		

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SECTION B: UNDERGROUND CABLES, MATERIAL AND ACCESSORIES

B1. NETWORK CABLES:

PLEASE NOTE: CABLE MUST BE MARKED STELLENBOSCH MUNICIPALITY AND AS FOLLOW:

LV & MV IN CONDUCTOR SIZES 50MM² AND LAGER WITH MINIMUM 18 WIRE CONSTRUCTIONS.

These cables must be sequentially marked with a 4mm wide tape which is inserted inside the conductor with the legend "STELLENBOSCH MUNICIPALITY" appearing at intervals of approximately 100mm on the tape. The cable embossing and drum markings shall include the following information below.

- STELLENBOSCH MUNICIPALITY
- Year of manufacture
- Voltage rating
- Conductor size
- Relevant SANS number as according to the specification
- Supplier's name

LV & MV IN CONDUCTOR SIZES SMALLER THAN 50MM²

These cables must be sequentially marked with a 4mm wide tape, which is applied to the cable during the process of laying up the cores and must be present under or over the bedding layer. This tape will include the legend "STELLENBOSCH MUNICIPALITY".
The cable embossing and drum markings shall include the following information below.

- STELLENBOSCH MUNICIPALITY
- Year of manufacture
- Voltage rating
- Conductor size
- Relevant SANS number as according to the specification
- Supplier's name

B1.1. 11 KV PAPER CABLE

No	GENERAL			
a.	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design.			
b.	This specification covers the requirements for 11kV Paper cable. 11kV Paper cable shall be manufactured in accordance with SANS 97. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 97 occur, this specification shall take precedence.			
B1.1.1	**COMPLIANCE WITH STANDARD SPECIFICATIONS**		**YES**	**NO**
a	Electrical cables – impregnated paper-insulated metal-sheathed cables for rated voltages 3.3/3.3kV to 19/33 kV	SANS97-2001		
b.	Medium-voltage cables	NRS 013:2000		

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B1.1.2	RATINGS			YES	NO
		Unit	**Value**		
a.	Rating	V	11000		
b.	Operating Voltage (Table 1	kV	11/11		
c.	Operating Voltage (Table 19)	kV	6.35/11		
B1.1.3	**CONSTRUCTIONAL REQUIREMENTS**			**YES**	**NO**
a.	Conductors	Stranded annealed copper			
b.	Shape	Circular or shaped			
c.	Insulation	Impregnated paper			
d.	Cores	3			
e.	Core identification	Required			
f.	Electric Field Control	Belted / Screened			

B1.1.4	STANDARD SIZES (BELTED TABLE 18)			
	Conductor Type	**Conductor Size (mm²)**	**YES**	**NO**
	COPPER PILC PVC DSTA PVC 11/11 (belted table 18)			
a.		50		
b.		70		
c.		95		
d.		120		
e.		150		
f		185		
g.		240		
h.		300		
B1.1.5	**STANDARD SIZES (SCREENED TABLE 19)**			
	Conductor Type	**Conductor Size (mm²)**	**YES**	**NO**
	COPPER PILC PVC DSTA PVC 6.5/11 (Screened table 19)			
a.		50		
b.		70		
c.		95		
d.		120		
e.		150		
f.		185		
g.		240		
h.		300		
B1.1.6	**TESTS**		**YES**	**NO**
a.	Test reports for type and routine tests as per SANS 97 to be provided.			
b.	Test to be done by an accredited authority.			
B1.1.7	**MARKING**		**YES**	**NO**
a.	Shall bear the SABS 97 mark of approval.			

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B1.1.8	PACKING	YES	NO
a.	Supplied in 300m on wooden drums.		

B1.2 LOW VOLTAGE AND COMMUNICATIONS CABLE

B1.2.1	GENERAL			
a.	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design.			
B1.2.2	**COMPLIANCE WITH STANDARD SPECIFICATIONS**		**Yes**	**No**
a.	Armoured cables shall comply with the requirements	SANS 1507-3:2007		
b.	Unarmoured cables shall comply with the requirements	SANS 1507-6:2007		
c.	Saferdac cables shall comply with the mixture requirements	SANS 1411-6 & 1411-1		

B2. BARE COPPER WIRE

No	Description		
B2.1	**General: Conductor Bare Copper 16mm²**		
	Specification	SABS 182	Conductor Details
	Stranded and Wire Diameter	7/1.70	mm²
	Overall Diameter	5.10	mm
	Copper Area	15.88	mm²
	Copper Mass	145	Kg/km
B2.2	**General: Conductor Bare Copper 35mm²**		
	Specification	SABS 182	Conductor Details
	Stranded and Wire Diameter	7/2.50	mm²
	Overall Diameter	7.50	mm
	Copper Area	34.36	mm²
	Copper Mass	310	Kg/Km
B2.3	**General: Conductor Bare Copper 70mm²**		
	Specification	SABS 182	Conductor Details
	Stranded and Wire Diameter	7/3.55	mm²
	Overall Diameter	10.65	mm
	Copper Area	69.29	mm²
	Copper Mass	620	Kg/km
B2.4	**General: Conductor Bare Copper 95mm²**		
	Specification	SABS 182	Conductor Details
	Stranded and Wire Diameter	19/2.50	mm²
	Overall Diameter Copper	12.50	mm
	Copper Area	93.27	mm²
	Capper Mass	839.18	Kg/km

B2.5	General: Conductor Bare Copper 120mm²		
	Specification	SABS 182	Conductor Details
	Stranded and Wire Diameter	37/2.03	mm²
	Overall Diameter	14.21	mm

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	Copper Area	119.75	mm²
	Copper Mass	1085	Kg/km

B2.6	ANTI-THEFT BONDING & EARTHING CABLE		
Area	Max.Res@20°C	Permissible Short Circuit for 1 Second	Nom.Ømm
10mm	1.840m ohm	1.7 kilo Amp	10
35mm²	0.529m ohm	5.0 Kilo Amp	15.00

B3. 11 KV TERMINATIONS AND JOINT KITS

SCOPE OF TENDER:

B3.1 The terminations offered in Item 1 and Item 2 shall be suitable for tables 18 and 19 PILCA 11 KV cables.

a) ITEM 1:

Terminations for 3 core cables terminated through ring type current transformers mounted in standard air insulated cable boxes.

Terminations shall be indoor, heat shrink type complying with SANS 1332/NRS 053 and be suitable for the termination of the cables as indicated in the pricing schedule included in this document. Kits shall including earthing kits. Suitable constant force springs for earth strap fitting are required in the earthing kits.

Cable to be used: – 11 kV 3 core PILC DSTA PVC/JUTE served.
Sizes: 16mm, 25mm, 35mm, 70mm, 95mm, 185 mm.

The terminations will be used in air insulated cable boxes equipped with low output ring core current transformers and Type C bushings. Thus, extended screen type terminations shall be supplied. The length of the oil barrier tube must be the full length of the tails. The conductive sleeves must be a minimum of 550 mm to exceed the distance from the cable mounting block to the position of ring current transformers. Installation instructions shall be included in the kits.

B3.2 ITEM 2:

Terminations for cables inside standard air insulated cable box.

Terminations shall be indoor, heat shrink type complying with SANS 1332/NRS 053 and be suitable for the termination of the cables as indicated in the pricing schedule included in this document Kits shall including earthing kits. Constant force springs for earth strap fitting is required in the earthing kits.

Cable to be used: – 11 kV 3 core PILC DSTA PVC/JUTE served.
Sizes: 16mm, 25mm, 35mm, 70mm, 95mm, 185 mm.

The terminations will be used in standard air insulated cable boxes mounted on transformers and switchgear. Installation instructions shall be included in the kits.

Specifications, ordering schedules and codes of termination kit components shall be included with the tender offer.

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B3.3 STRAIGHT JOINTS FOR MV CABLES

(a) Scope

This specification is for procurement of straight joints for use on the medium voltage underground cable network of three cores, impregnated double steel armoured lead sheath cables. (11 KV Table 18/19)

(b) General

The jointing kits shall consists of an open type joints with ample access for compound penetration between cores and at the same time maintains predetermined clearances between cores and also between cores and the lead sleeve.

The primary insulation over the jointing sleeve (ferrules) consists of a wide impregnated hand applied paper binder providing di- electric strength.

The inner lead sleeve is filled with a hot melted bitumastic compound specially designed for this application. A special hot bitumastic compound with a low temperature melting point is provided to fill the joint between the inner lead sleeve and the outer iron shell.

Components to be supplied with each kit:

Quantity:	**Description**	**Remarks**
1	Outer cast iron shell complete with bolts and nuts	
1	Inner lead sleeve with filler caps	
2	Vitrified porcelain separators	
1	Roll wide lead strip / lead bushes	
1	Roll narrow lead strip / lead bushes	
Insulating Materials Quantity:	**All the insulating materials shall be supplied in a hermetically sealed tin with each kit:**	
3	Wide impregnated paper binders	
7	Rolls of 13mm wide impregnated linen tapes for taping for taping over ferrules	
9	Rolls of 25mm impregnated linen tapes for taping the separators in place	
1	Rolls of impregnated linen thread for binding purposes	
1	Paper binders –impregnated linen of 0.13 mm thick insulate grade as used for cable insulation. This shall be supplied on a wooden former which facilitates lapping	
1	Bituminous hot melted compound (33KV rated) –12.7kg tin	1001 / 1002
2	Bituminous hot melted compound (33KV rated) –12.7kg tin	1003
1	Sheet of brown paper	
2	Rolls of twine	

Specifications, ordering schedules and codes of joint components shall be included with the tender offer.

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B4.LOW VOLTAGE CABLE JOINTS – RESIN SPICING KIT

		Compliance	
Item no	**Description/ specification**	**YES**	**NO**
B4.1	The LV cable joint resin spicing kit must • Be equipped for armoured cables • Be tough and moisture proof • Have Long lasting physical and electrical protection • Be complete and shall include tape to insulate, ferrules, sealing mould ends and flame-retardant resin Max Voltage: 1.1kV • Include SABS performance test report.		

B5. PVC GENERAL PURPOSE HOUSE WIRE

		Compliance	
Item no	**Description/ specification**	**YES**	**NO**
a.	Plain annealed stranded copper wire conductors, insulated with a general-purpose grade PVC		
b.	Must comply with SANS:1507/2002		
c.	Voltage Rating must be 600/100 V		
d.	Temperature Range must be: -10°C to 70°C for all colours (Black, Blue, White, Red & Green/Yellow)		

B6. SILICONE FLEXIBLE CABLES

High conductivity bunched flexible tinned copper conductors, insulated and colour coded with a silicone rubber dielectric final sheath in a heat-resistant silicone rubber. Minimum distance 100m

		Compliance	
Description/ specification		**Yes**	**No**
Voltage rating	450/750 Volts		
Temperature Range	-60°C to + 180°C		
Flexibility Class	5		
Conductor Type	Tinned flexible high conductivity copper		
Industrial Material	Silicone rubber		
Sheath Colour	Red		
Core Colours	3Core Blue, Brown and Green/Yellow		

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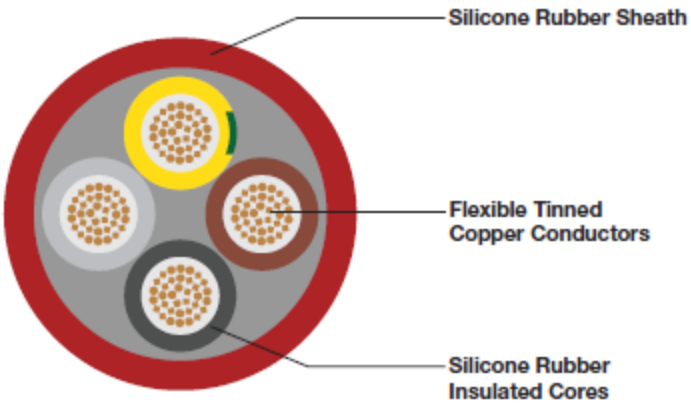

Illustration of a silicone flexible cable

B7. SILICONE CONTROL CABLE

			Compliance	
Item no.	**Description/ specification**		**Yes**	**No**
a.	High conductivity bunched flexible copper tinted conductor to sans 1411 part 1. Insulated with silicon red rubber type RD 7 colour coded with general purpose flexible grade with silicone rubber.			
b.	Cable size	1.5mm		
c.	Number of cores	3		
d.	Sheath Colour	Red		
e.	Rated Voltage	300/500V		
f.	Silicone Insulation	All cores		
g.	Packing information	100m shrink-wrapped coils		

B8. SURFIX CABLE

			Compliance	
Item no.	**Description/ specification**		**Yes**	**No**
a.	Copper conductors to SANS 1411 Part 1, PVC insulated to SANS 1411 Part 2, laid up with a bare copper tinned copper earth wire in contact with a longitudinal aluminium /polyethylene laminate, UV stable PVC sheathed to SANS 1411 Part 2.			
b.	Cable size	2.5mm		
c.	Number of cores	3		
d.	Overall Diameter	11.3mm		
e.	Resistance @20°C	3.08 phase& 7.56 Earth		
f.	Current rating	38A		
g.	Voltage drop	7.3		
h.	Cable mass per meter	25.7kg		
i.	Packing information	100m shrink-wrapped coils		

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B9. FLAT TWIN AND EARTH CABLE

			Compliance	
Item no.	**Description/ specification**		**Yes**	**No**
a.	Copper conductors to SANS 1411 Part 1, PVC insulated to SANS 1411 Part 2, laid up with a bare copper earth-continuity-conductor between them, UV stable PVC sheathed to SANS 1411 Part 2.			
b.	Cable size	2.5mm		
c.	Number of cores	2		
d.	Overall Diameter	10.3 x 5.5mm		
e.	Resistance @20°C	7.4 phase& 12.1 Earth		
f.	Current rating	23A		
g.	Voltage drop	18		
h.	Cable mass per meter	12.8kg		
i.	Packing information	100m shrink-wrapped coils		

B10. NITRILE TRAILING CABLE

				Compliance	
Item no.	**Description/ specification**			**Yes**	**No**
a.	High conductivity bunch plain flexible copper conductor to SANS 1411 Part 1. Cores insulated and bedded with Flexible PVC. Flexible Grade PVC/Nitrile outer sheath.				
b.	Cable size	16mm	25mm		
c.	Number of cores	4	4		
d.	Overall Diameter	23mm	26.2mm		
e.	Resistance @20°C	1.21	0.78		
f.	Current rating	65A	95A		
g.	Voltage drop	2.4	0.87		
h.	Cable mass per meter	1kg	1.4kg		
i.	Packing information	500-meter wooden drum. Sheath identification PVC/Nitrile - Orange			

B11. CABTYRE CABLE FLEXIBLE WIRING

			Compliance	
Item no.	**Description/ specification**		**Yes**	**No**
a.	High conductivity bunched flexible copper conductor to sans 1411 part 1. Insulated colour coded with general purpose flexible grade to sans 1411 part2			
b.	Cable size	1.5mm and 2.5mm		
c.	Number of cores	3		
d.	Nominal Stranding	72/0.2		
e.	Overall Diameter	10.3		
f.	Resistance	7.98		
g.	Current rating	25A		
h.	Voltage drop	19		
i.	Cable mass per 100m	±16.8		
j.	Packing information	100m shrink-wrapped coil		

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B12. CABLE DUCTS(CABLEFLEX)

						Compliance	
Item	**Description**	**Size mm**	**Length m**	**Outside ø mm**	**Inside ø mm**	**YES**	**NO**
B12.1	Comply with SABS in respect of SANS (SANS61386-24) entitled Conduit systems for cable management Part 24 Upper Woking temperature of 100° Double wall construction with knock on coupling	110	6	110	95		
B12.2		160	6	160	137		

B13. CABLE CLAMPS – CAB-STRUT CHANNEL

					Compliance	
Item no.	**Description/ specification**	**Clamp size (mm)**	**Bolt size**	**Bø (mm)**	**Yes**	**No**
B13.1	Clamp and bolt must be galvanized.	16	M6	16		
B13.2		26	M6	26		
B13.3		46	M8	46		
B13.4		66	M8	66		
B13.5		78	M8	78		

B14. CABLE GLANDS AND RUBBER SHROUDS ADJUSTABLE (Nickel Plated Brass)

			Compliance	
Item no.	**Description/ specification**	**Gland size**	**Yes**	**No**
B14.1	• Must comply with SANS 1213. • Adjustable-fits any size armouring. • Gearbox Action to ensures unprecedented clamping force. • Loose Cone to ensures best armour grip. • To be completely re-usable. • To be adaptable to other thread types. • To be convertible for use with unarmoured cable. • Supplied complete with locknut & shroud	1		
B14.2		2		
B14.3		3		
B14.4		4		
B14.5		5		

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B15. HEAT-SHRINK CABLE BREAKOUT BOOT

					Compliance	
Item no.	**Description/ specification**	**Boot size (mm²)**	**Conductor size (mm²)**	**Type**	**Yes**	**No**
B15.1	To be manufactured from a high-quality cross-linked polymer compound. Suitable for terminating and sealing of low voltage cables, plastic, paper and rubber. Breakouts to be internally coated with a hot melt adhesive to prevent the ingress of moisture into the crutch are. Operating temperature range -30°C to +80°C. Good weather ability and UV resistance	16 x2C	1-25	EN2 30/8		
B15.2		16 x4C	6-35	EN4 35/15		
B15.3		35&70x4 C	25-150	EN4 60/25		
B15.4		95x4C	70-185	EN4 75/30		

B16. HEAT-SHRINKABLE CABLE END CAPS

						Compliance	
Item no.	**Description/ specification**	**Inside Diameter (mm)**	**Length (mm)**	**Width (mm)**	**Type**	**Yes**	**No**
B16.1	Endcaps to be manufactured from a high-quality, cross-linked compound of polyolefin. The internal surface of the end cap is coated with hot melt thermoplastic adhesive, which retains the flexible properties after the shrinking process, producing a water-tight seal. Operating temperature must be between -55C to 110°C. Colour must be black. Shrink temperature must be 120°C	55	134	3.9	55/25		
B16.1		75	170	3.33	75/32		

B17. STAINLESS STEEL STRAPPING & BUCKLES

							Compliance	
Item no.	**Description/ specification**	**Grade**	**Thickness (mm)**	**Length (mm)**	**Width (mm)**	**Type**	**Yes**	**No**
B17.1	Stainless Steel Strapping	307	0.75	30	19			
B17.2	Stainless Steel Buckles Jaw Type / Grade-304 Width-19mm	304			19	Jaw		

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B18. FERRULES (For Stranded copper conductor)

						Compliance	
Item no.	**Description/ specification**	**Inside diameter (mm)**	**Outside diameter (mm)**	**Length (mm)**	**Nominal Sleeve (mm²)**	**Yes**	**No**
B18.1	Ferrules Crimping CU	3.4	5.3	17.7	6		
B18.2	Ferrules Crimping CU	4.4	6.3	19.8	10		
B18.3	Ferrules Crimping CU	5.5	7.6	22	16		
B18.4	Ferrules Crimping CU	8.2	10.7	27.5	35		
B18.5	Ferrules Crimping CU	11.7	15	34.4	70		
B18.6	Ferrules Crimping CU	13.5	17.4	38.6	95		
B18.7	Ferrules Crimping CU	15.5	19.8	42.9	120		
B18.8	Ferrules Crimping CU	17	22	48.1	150		
B18.9	Ferrules Crimping CU	19	24.4	53.6	185		

B19. CABLE LUGS CRIMPING (For Stranded copper conductor/cable)

								Compliance	
Item no.	**Description/ specification**	**Nominal Lug size (mm²)**	**Stud size (mm)**	**Barrel length (mm)**	**Length (mm)**	**Hole (mm)**	**Width (mm)**	**Yes**	**No**
B19.1	Lugs Crimping CU 6mm	6	10	11	19	7.5	15		
B19.2	Lugs Crimping CU 10mm	10	10	11	19	7.5	15		
B19.3	Lugs Crimping CU 16mm	16	8	12	18	7.5	13		
B19.4	Lugs Crimping CU 16mm	16	10	12	20	7.5	15		
B19.5	Lugs Crimping CU 16mm	16	12	12	25	10.5	18		
B19.6	Lugs Crimping CU 35mm	35	10	15	19	9	16		
B19.7	Lugs Crimping CU 35mm	35	12	15	22	10	18		
B19.8	Lugs Crimping CU 70mm	70	12	18	24	10	20		
B19.9	Lugs Crimping CU 95mm	95	10	21	26	11	22		
B19.10	Lugs Crimping CU 95mm	95	12	21	21	12	22		
B19.11	Lugs Crimping CU 120mm	120	12	23	28	13	26		
B19.12	Lugs Crimping CU 150mm	150	12	26	28	12	28		
B19.13	Lugs Crimping CU 185mm	185	12	27	33	16	32		

B20. CABLE TIES - BLACK

								Compliance	
Item no.	**Description/ specification**	**width (mm)**	**Length (mm)**	**Bundle Ø Max**	**N (mm)**	**Material (mm)**	**Packaging Per bag**	**Yes**	**No**
B20.1	Cable Ties T18R	2.5	100	22	80	PA66W	100		
B20.2	Cable Ties T30R	3.5	150	35	135	PA66W	100		
B20.3	Cable Ties T50R	4.6	200	50	225	PA66W	100		
B20.4	Cable Ties T120R	7.6	387	100	535	PA66W	100		

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B21. WIPING METAL (Solder Alloy)

							Compliance	
Item no.	**Description/ specification**	**Grade**	**S'n**	**S,b**	**Max Impurities**	**Melting range (Celsius)**	**Yes**	**No**
B21.1	Wiping metal 30%	SABS S5	30%	1.0-1.7%	0.25%	185-248		

B22. PVC ELECTRICAL INSULATION TAPE

						Compliance	
Item no.	**Description/ specification**	**Width (mm)**	**Length (mm)**	**Thickness (mm)**	**Dielectric Strength**	**Yes**	**No**
B22.1	To be the highest quality PVC insulated tape, unsurpassed strength and elasticity ensures a neat, safe and easy wrap. Weather resistance with a long-term adhesion. To be supplied in useful re-usable plastic containers to keep tape clean and free of fault causing filings. Colours red, blue, yellow, black and green	19	20	0.2	10kV		

B23. PRE-CAST PANELS (Vibracrete)

		Compliance	
Item no.	**Description/ specification**	**Yes**	**No**
a.	Concrete strength for all components is a minimum of 35MPA at 28 days		
b.	Slabs to be reinforced with 2 X 3.5mm² x 1400mm long steel bars		
c.	Two equally spaced eye-hooks, with rod diameter of 10mm and an opening of 75mm.		

B24. BARRIER TAPE

					Compliance	
Item no.	**Description/ specification**	**Colour**	**Length (m)**	**Width (mm)**	**Yes**	**No**
B24.1	Red and White plastic Barrier Tape	Red & White	500m	75mm		

B25. ELECTRICAL CABLE WARNING TAPE (DANGER TAPE)

					Compliance	
Item no.	**Description/ specification**	**Colour**	**Length (m)**	**Width (mm)**	**Yes**	**No**
B25.1	Orange or Yellow plastic without adhesive with a warning message "ELECTRIC CABLE BELOW"	Orange or Yellow	500m	150mm		

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SECTION C: OVERHEAD CONDUCTORS, MATERIAL AND ACCESSORIES

					Compliance	
Item no.	**Description/ specification**	**Colour**	**Length (m)**	**Width (mm)**	**Yes**	**No**
B25.1	Orange or Yellow plastic without adhesive with a warning message "ELECTRIC CABLE BELOW"	Orange or Yellow	500m	150mm		

C1. AERIAL BUNDLE CONDUCTOR CABLES

No	Description			Compliance	
C1.1	**LOW VOLTAGE AERIAL BUNDLE CONDUCTOR**				
C1.1.1	**GENERAL**			**YES**	**NO**
a.	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design.				
b.	This specification covers the requirements for LV ABC cable. LV ABC cable shall be manufactured in accordance with SANS 1418. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 1418 occur, this specification shall take Precedence. Cable and drum markings shall include the following information STELLENBOSCH MUNICIPALITY: Year of manufacture; Voltage rating; Conductor size; Relevant SANS number as according to the specification and Supplier's name				
C1.1.2	**COMPLIANCE WITH STANDARD SPECIFICATIONS**			**Yes**	**No**
a.	Aerial Bundled Conductor Systems		SANS 1418 part 1:1987		
b.	Part 1: Cores		SANS 1418 part 2:2001		
C1.1.3	**RATINGS**			**Yes**	**No**
a.		**Unit**	**Value**		
	Rating	Vrms	600/1000		
C1.1.4	**CONSTRUCTIONAL REQUIREMENTS**			**Yes**	**No**
a	Phase Conductor		Stranded compacted aluminium		
b	Neutral		Aluminium alloy		
c	Neutral construction		Strain-bearing		
d	Insulation		Carbon loaded XLPE		

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C1.1.5	CORE IDENTIFICATION			Yes	No
a.	Phase 1, 2 3 And 4 indented (Excluded item 4)				
b	Neutral –1 x longitudinal rib on surface				
C1.1.6 STANDARD SIZES					
	Conductor Size (mm²)	**Auxiliary conductor size(mm²)**	**Neutral / earth conductor size (mm²)**		
a.	25	---	25		
b.	70	25	54.6		
c.	95	25	54.6		
d.	120	25	70		
C1.1.7	**TESTS**			**Yes**	**No**
a.	Test reports for type and routine tests as per SANS1507 to be provided.				
b.	Test to be done by an accredited laboratory.				
C1.1.8	**RAISING PLINTH**			**Yes**	**No**
a.	Shall bear the SABS 1507 mark of approval.				
b.	The cable shall be sequentially marked at one metre intervals with the legend 000m, 001m etc. starting with 000m at the barrel of the drum and finishing with the number Indicating the length of cable on the drum at the outer end of the cable. The error in the length marking shall be less than 1%.				
C1.1.9	**Packing**			**Yes**	**No**
a.	Supplied on wooden drums. Cable ends to be sealed.				
b.	For cables of 16mm² or smaller –500 lengths.				
C1.1.10	**General**			**Yes**	**No**
a.	Prices to include supply of goods and delivery to the Municipal Store in Stellenbosch				
b.	Equipment shall only be newly manufactured. No second hand or refurbished equipment shall be offered.				

C1.2 MV AERIAL BUNDLE CONDUCTOR

No	DESCRIPTION	COMPLIANCE	
C1.2.1	**GENERAL**	**YES**	**NO**
	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance		

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	in service. Approval by Stellenbosch. Municipality shall not relieve the supplier of the responsibility for the adequacy of the design. This specification covers the requirements for LV ABC cable. LV ABC cable shall be manufactured in accordance with SANS 1418. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 1418 occur, this specification shall take precedence. Cable and drum markings shall include the following information -STELLENBOSCH MUNICIPALITY: Year of manufacture; Voltage rating; Conductor size; Relevant SANS number as according to the specification and Supplier's name				
C1.2.2	**COMPLIANCE WITH STANDARD SPECIFICATION**			**Yes**	**No**
a.	Electric cables-voltage aerial - Medium bundled conductors for SANS 1713:2017 voltages from 3,8/6,6 kV to 19/33 kV				
C1.2.3	**RATINGS**			**Yes**	**No**
a.	Rating	**Unit** Vrms	**Value** 6.35/11000		
C1.2.4	**CONSTRUCTION REQUIREMENTS**			**Yes**	**No**
C1.2.4.1	**Conductor details**				
a	Area	70mm2			
b	Diameter	9.79mm			
c	No. cores	3			
d	Type	Stranded circular compact aluminium			
C1.2.4.2	**Insulation**			**Yes**	**No**
a	Conductor screen	SC XLPE, 0.6mm thickness			
b	Insulation	XLPE 3.4mm thickness			
c	Core screen	SC Strippable XLPE, 0.6mm thickness			
d	Core diameter	18.99mm			
C1.2.4.3	**Metallic screen**			**Yes**	**No**
a	Type	Copper tape screen			
b	No. tapes per core	1			
c	No. wires per core				
d	Screen area per core	9.11mm2			
e	Diameter	19.49mm			

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C1.2.4.4	**Serving details**		**Yes**	**No**
a	Type	PVC		
b	Thickness	1.7mm		
c	Diameter	23.14mm		
C1.2.4.5	**Catenary details**		**Yes**	**No**
a	Type	Galvanized HSSW Strand 7x3 mm		
b	Diameter	9mm		
C1.2.4.6	**Catenary sheath**		**Yes**	**No**
a	Type	PVC		
b	Diameter	11.4mm		
C1.2.4.7	**Laid up assembly**			
a	Diameter	57.72mm		
b	Net mass of cable	2671.5kg/km		
C1.2.4.8	**Mechanical details**		**Yes**	**No**
a	Minimum breaking strength	5650 kg		
b	Coefficient linear expansion	11,5 C		
c	Modulus of elasticity	126800 N/mm2		
C1.2.4.9	**PACKING**		**Yes**	**No**
a.	Supplied on wooden drums. Cable ends to be sealed			

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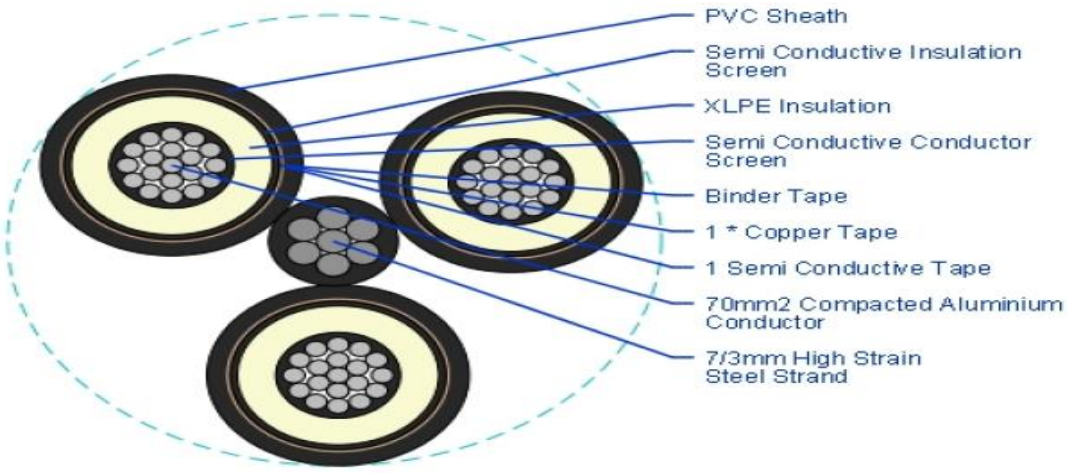
Figure 1. Illustration of the MV aerial bundle conductor construction



C2 ACSR MINK (63/11) OVERHEAD UNGREASED CONDUCTOR

No	DESCRIPTION			COMPLIANCE	
C2.1	**GENERAL**			**Yes**	**No**
a	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch. Municipality shall not relieve the supplier of the responsibility for the adequacy of the design. This specification covers the requirements for mink overhead ungreased conductor. Conductor shall be manufactured in accordance with SANS 182. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 182 occur, this specification shall take precedence. Cable and drum markings shall include the following information -STELLENBOSCH MUNICIPALITY; Year of manufacture; Voltage rating -Conductor size; Relevant SANS number as according to the specification -Supplier's name				
C2.2	**COMPLIANCE WITH STANDARD SPECIFICATION**			**Yes**	**No**
a	Conductors for overhead electrical transmission lines		SANS 182		
C2.3	**RATINGS**			**Yes**	**No**
a.	Amperes	**Unit** A	**Value** 260,8		
b.	DC Resistances at 20C	Ohms/km	0,45455		
C2.4	**CONSTRUCTION REQUIREMENTS**			**Yes**	**No**
a.	Strand	**6/3,66mmAL+ 1/3,66mm Steel**			
b.	Strand build up	1+6			
c.	Diameter over steel	3,66 mm			
d.	Overall diameter	10.98 mm			

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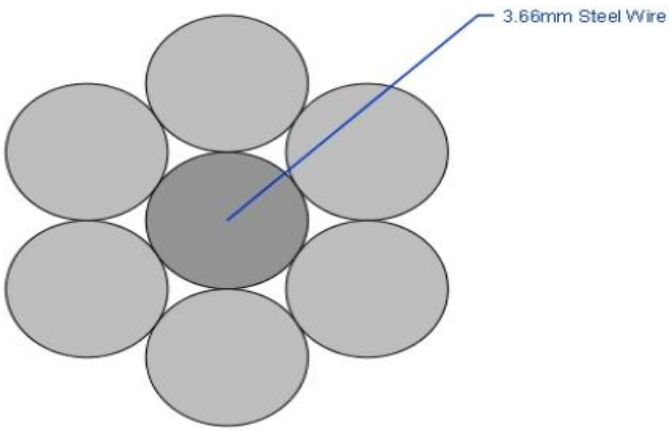
e.	**Steel area**	10,52 mm2		
f.	Aluminium area	63,13 mm2		
g.	Total area	73,65 mm2		
h.	Steel mass	82 kg/km		
i.	Type of grease	Not applicable		
j.	Grease drop point	Not applicable		
k.	Grease mass	Not applicable		
l.	Total mass	255,4 kg/km		
M	Tensile strength	21672 N		
n.	Breaking load	2209,2 kg		
o.	Coefficient of linear expansion	19,3 per degree C		
p.	Initial modulus of elasticity	49100 N/mm2		
q.	Final modulus of elasticity	80400 N/mm2		
C2.5	**PACKING**			
a	Supplied on wooden drums. Cable ends to be sealed			

Figure 2: Illustration of ACSR mink overhead ungreased conductor construction



C3 ACSR 6/1/4.72mm HARE OVERHEAD UNGREASED CONDUCTOR

No	DESCRIPTION
C3.1	**GENERAL**
a	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch. Municipality shall not relieve the supplier of the responsibility for the adequacy of the design.
b	This specification covers the requirements for ACSR hare overhead ungreased conductor. Conductor shall be manufactured in accordance to SANS 182. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the SANS 182 occur, this specification shall take precedence.
c	Bidders are to indicate “Yes” for compliance with the specification and “No” for not complying with the specification. Failure to indicate compliance will result in disqualification of the bidder’s offer.
d	Pricing must be completed in full and delivery period clear indicated. Failure to indicate delivery period will result in disqualification of the bidder’s offer. Bidders must attach to their offer a technical data sheet for the ACSR conductor quoting for.

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				COMPLIANCE	
C3.2	**COMPLIANCE WITH STANDARD SPECIFICATION**			YES	NO
a	Conductors for overhead electrical transmission lines		SANS 182		
C3.3	**RATINGS**				
a	Amperes	**Unit** A	**Value** 360		
b	DC Resistances at 20C	Ohms/km	0,2733		
C3.4	**CONSTRUCTION REQUIREMENTS**				
a.	Strand		6/4.72mm AL + 1/4,72mm Steel		
b.	Strand build up		1+6		
c.	Diameter over steel		4.72 mm		
d.	Overall diameter		14.16 mm		
e.	Steel area		17.5 mm2		
f.	Aluminium area		104.98 mm2		
g.	Total area		122.48 mm2		
h.	Steel mass		137 kg/km		
i.	Aluminium Mass		288 kg/km		
j.	Type of grease		Not applicable		
k.	Grease drop point		Not applicable		
l.	Grease mass		Not applicable		
m.	Total mass		425.1 kg/km		
n.	Tensile strength		36046 N		
o.	Breaking load		3674.4 kg		
p.	Coefficient of linear expansion		19,3 per degree C		
q.	Initial modulus of elasticity		48500 N/mm squared		
r.	Final modulus of elasticity		80400 N/mm squared		
C3.5	**PACKING**				
a.	Supplied on wooden drums and labelled “Stellenbosch Municipality”. Cable ends to be sealed				
b.	Standard conductor length must be 1500m per drum				

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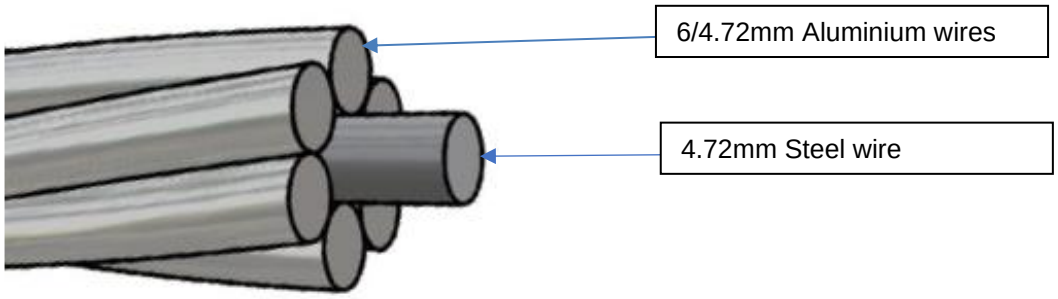
Figure 3: Illustration of ACSR HARE overhead ungreased conductor



C.4 AERIAL BUNDLE CONDUCTOR ACCESSORIES

ITEM NO.	DESCRIPTION	Compliance YES	Compliance NO
C4.1. ABC LOW VOLTAGE NEUTRAL STRAIN ASSEMBLY-TYPE EAS 54-10		YES	NO
C4.1.1	Strain assembly must be suitable for insulated neutral 54.6mm^2.		
C4.1.2	Must have a minimum breaking load of 1500kg.		
C4.1.3	Must consist of an Aluminum alloy pole mounted bracket and a thermo resistance PVC wedge type clamp for the conductor.		
C4.1.4	The method of mounting on pole must be by an M16 bolt or 2 stainless steel straps of 20mm wide and 0.7mm thick. The clamp must be fixed to the bracket with flexible stainless-steel cable with a PVC liner to protect the cable contact with the bracket.		
C4.2. ABC LOW VOLTAGE SUSPENSION CLAMP ASSEMBLY-TYPE ES 54-14		YES	NO
C4.2.1	Suspension clamp assembly must be suitable for insulated neutral 54.6mm^2.		
C4.2.2	Must have a glass fibre reinforced thermo-PVC suspension suitable for a 54.6mm^2 conductor.		
C4.2.3	The suspension clamp must have a self-lockable device to lock around the catenary for a secure fitment of the conductor.		
C4.2.4	The method of mounting on pole must be by an M16 bolt or 2 stainless steel straps of 20mm wide and 0.7mm thick.		
C4.3. AIRDAC CONDUCTOR CONSUMER SERVICE STRAIN CLAMP		YES	NO
C4.3.1	Suspension clamp assembly must be suitable for 4, 10 and 16mm^2.airdac cables.		
C4.3.2	This unit must have a bracket from hot dip galvanized steel bail and a thermo PVC wedge type cable clamp. Alternative a stainless-steel bail may be used.		
C4.3.3	Must have a minimum breaking load of 1500kg.		
C4.4. ABC FUSE SWITCH DISCONNECTORS		YES	NO
C4.4.1	Fuse switch disconnectors must be designed to be used with NH00 and NH02 size fuse up to a maximum of 400 Amp of line protection without blades.		
C4.4.2	Must be designed for full load switching with fuse links of disconnector blades up to 400A		

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C4.4.3	The upper housing of the switch is hinged to the lower body and can be withdrawn by the insulated operating link stick thereby enabling changing of fuse from ground level.		
C4.4.4	Must be fully insulated and made from corrosion proof, impact resistant, weather & UV resistant glass fiber reinforced polyamide compound suitable for consistent performance under adverse climatic conditions.		
C4.5. ABC INSULATED PIERCING CONNECTORS – TYPE PC1WP1F		YES	NO
C4.5.1	The connector must be suitable for bulk main line connections on ABC line T-off service connections 35 to 95mm^2 to 10 and 16mm^2 cable connections		
C4.5.2	The unit must consist of two insulated clamps fitting around the ABC conductors and bolted together with single bolt. These bolts must be the shear off type head to ensure a maximum torque tightness.		
C4.5.3	The clamp must be geometrically balanced when tightened.		
C4.5.4	The unit must be weather/ waterproof. The clamp conductor must have two contact plates and must be suitable for Al – Al and Al – Cu connections.		
C4.5.5	The unit must be open ended so that conductors can exit on either side of the clamp.		
C4.5.6	This unit must have a minimum voltage withstand rating of 6kV.		
C4.6. ABC INSULATED PIERCING CONNECTORS – TYPE BC-21F		YES	NO
C4.6.1	Must be suitable for line connections on ABC line T-off connections from 35mm^2 to 185mm^2 bare overhead line connections.		
C4.6.2	The unit must consist of two insulated clamps fitting around the ABC conductors and bolted together with single bolt. These bolts must be the shear off type head to ensure a maximum torque tightness.		
C4.6.3	The clamp must be geometrically balanced when tightened. The unit must be weather/ waterproof.		
C4.6.4	The clamp conductor must have two contact plates and must be suitable for Al – Al and Al – Cu connections.		
C4.6.5	The unit must be open ended so that conductors can exit on either side of the clamp.		
C4.6.6	This unit must have a minimum voltage withstand rating of 6kV.		
C4.7. ABC INSULATED PIERCING CONNECTORS – TYPE PC3WP2F		YES	NO
C4.7.1	Must be suitable for bulk main line connections on ABC line T-off and shackle extensions from 35 to 95mm^2		
C4.7.2	The unit must consist of two insulated clamps fitting around the ABC conductors and bolted together with double bolts. These bolts must be the shear off type head to ensure a maximum torque tightness.		
C4.7.3	The clamp must be geometrically balanced when tightened.		
C4.7.4	The clamp conductor must have four contact plates and must be suitable for Al – Al and Al – Cu connections.		
C4.7.5	The unit must be open ended so that conductors can exit on either side of the clamp.		
C4.7.6	This unit must have a minimum voltage withstand rating of 6kV.		
C4.8. ABC INSULATED PIERCING CONNECTORS – TYPE PC6WP2CF		YES	NO
C4.8.1	Must be suitable for bulk main line connections on ABC line T-off and shackle extensions from 35 to 95mm^2		
C4.8.2	The unit must consist of two insulated clamps fitting around the ABC conductors and bolted together with double bolts. These bolts must be the shear off type head to ensure a maximum torque tightness.		
C4.8.3	The clamp must be geometrically balanced when tightened.		
C4.8.4	The unit must be weather/ waterproof.		
C4.8.5	The clamp conductor must have four contact plates and must be suitable for Al – Al and Al – Cu connections.		

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C4.8.6	In the case of Cu cable connections, a shaped cable core of up to 185mm^2 must be accommodated.		
C4.8.7	The unit must be open ended so that conductors can exit on either side of the clamp.		
C4.8.8	This unit must have a minimum voltage withstand rating of 6kV.		
C4.9. ABC INSULATED COMPRESSION JOINTS – TYPE MJPT		YES	NO
C4.9.1	Must be suitable for linear jointing of ABC conductors midspan.		
C4.9.2	The type MJPT unit must indicate the insulation stripping length of the conductors on the outer body of the connector.		
C4.9.3	The unit must be able to join two conductors of the following sizes; 25mm^2 - 25mm^2 ; 35mm^2 - 35mm^2 ; 50mm^2 - 50mm^2 ; 70mm^2- 70mm^2 ; 95mm^2 - 95mm^2 ;120mm^2- 120mm^2; 54.6mm^2- 54.6mm^2;		
C4.10. ABC INSULATED BI-METAL COMPRESSION LUGS – TYPE CPTAU		YES	NO
C4.10.1	Must consists of aluminium, copper and PVC insulation suitable for ABC conductors to be connected to equipment studs.		
C4.10.2	The type CPTAU unit must indicate the insulation stripping length of the conductors on the outer body of the connector.		
C4.10.3	The unit must be have the following sizes; 25mm^2 (conductor)x 16mm^2 (hole); 35mm^2 (conductor)x 16mm^2 (hole); 50mm^2 (conductor)x 16mm^2 (hole); 70mm^2 (conductor)x 16mm^2 (hole);		

C5 OVERHEAD LINES ACCESSORIES

ITEM NO.	DESCRIPTION		YES	NO
C5.1. PORCELAIN PIN INSULATOR			YES	NO
C5.1.1	Material	Porcelain		
C5.1.2	Rating	11kV / 10kN		
C5.1.3	Type	HT1014/40		
C5.1.4	Creepage distance	325mm		
C5.2. LINE POST INSULATOR			YES	NO
C5.2.1	Material	Porcelain		
C5.2.1	Rating	22kV / 4kN		
C5.2.1	Type	EP472		
C5.2.1	Creepage distance	630mm		
C5.3. STAY STRAIN INSULATOR			YES	NO
C5.3.1	Material	Fibreglass		
C5.3.1	Rating	11kV / 70kN		
C5.3.1	Compliance	D-DT-3144		
C5.3.1	Creepage distance	460mm & 765mm		
C5.4. SILICONE LONG ROD INSULATOR			YES	NO
C5.4.1	Material	Silicone		
C5.4.2	Rating	11kV / 70kN		
C5.4.3	Creepage distance	400mm		

ITEM NO.	DESCRIPTION		YES	NO
C5.5. PORCELAIN DROPOUT			YES	NO
C5.5.1	Material	Porcelain		
C5.5.2	Rating	11kV / 22kV		
C5.5.4	Creepage distance	560mm		
Figure C5.5: Complete unit with line connection terminals & support structure connection				

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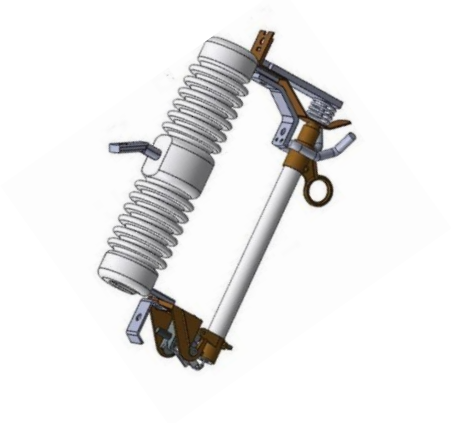				
C5.6. SILICONE DROPOUT			**YES**	**NO**
C5.6.1	Material	Silicon		
C5.6.2	Rating	11kV / 22kV		
C5.6.3	Creepage distance	750mm		
C5.7. DROPOUT FUSE TUBE			**YES**	**NO**
C5.7.1	Rating	100A		
C5.7.2	Material	Brass, Silver Plating,		
C5.7.3	Compliance	D-DT-3086		
C5.8. OVERHEAD LINE GALVANIZED STEEL A FRAME			**YES**	**NO**
C5.8.1	Galvanized steel A frame suitable for mounting on a wooden transmission pole. Mounting shall be by means of a bolt and nut 			

ITEM NO.	DESCRIPTION	YES	NO
C5.9. STAY RODS			
C5.9.1	Galvanized Non-adjustable stay rods size M20 x 2 meters		
C5.9.2	Galvanized Adjustable stay rods size M20 x 2.4 meters		
C5.10. BASE PLATE FOR NON-ADJUSTABLE STAY RODS			
C5.10.1	Galvanized slotted base plate for non-adjustable stay rods. Shape: Octagonal with sizes 340 x 375 x 6mm		
C5.11. GALVANISED STEEL STAY WIRE			
C5.11.1	1100MPA galvanized stay wire, 5 strands of 4.06mm with a weight of 0.5065Kg/m		
C5.12. GALVANISED D SHACKLE			
C5.12.1	70kN D shackle pin type		
C5.12.2	120kN D shackle bolt type		

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C5.13. GUY GRIP FOR STAY WIRE			
C5.13.1	Brown stranded guy grip dead end for galvanized stay wire. 5 strands x 4mm		

SECTION D: STREETLIGHTING, MATERIAL AND ACCESSORIES

D1	**POLES TRANSMISSION AND NETWORK**			
D1.1	**GALVANISED STREETLIGHT POLE**		**Yes**	**No**
D1.1.1	SPECIFICATION:	i) 50year mean return period ii) Category 2 Class B structure iii) Altitude –Sea level		
D1.1.2	DESIGN CONDITIONS:	i) The poles must be designed to withstand a wind velocity of up to 150kph ii) The wind area of the pole must be calculated with a lantern wind area of 0.35m² in addition to the tapering projected area of the pole iii) In the design of the poles the analysis must be based on the plastic theory, with result that all components have a – load		
D1.1.3	CONSTRUCTION:	The construction of the poles must be from pre-formed steel pipe of various sizes welded together through reducers by means of continuous full strength butt welds, ie tubular stepped in sections.		
D1.1.4	MATERIAL	The tubular material used is grade 300MPA to SABS 657 with welding conforming to SABS 1200 H minimum thickness 4mm.		
D1.1.5	FINISH	The poles and all ancillary must be hot dipped galvanized to SABS 763 specification.		
D1.1.6	BASE PLATE:	Planted poles are supplied with a loose base plate 400 x 400 x 4mm thick, which is attached to the pole shaft by means of 2 x M16 hook bolts.		
D1.1.7	CABLE ENTRY:	A single cable entry 100 x 50mm wide is provided 400mm below ground level.		
D1.1.8	PROTECTION SLEEVE:	The streetlight poles must be supplied with a ground sleeve 600mm long and 5mm thick. When planted the top portion of sleeve must be 100mm above ground level		
D1.1.9	ACCESS OPENING:	A flush mounted door to be supplied with the poles as well as recessed Allen cap screw. Connection chamber to be at 2200mm/400mm above ground level.		

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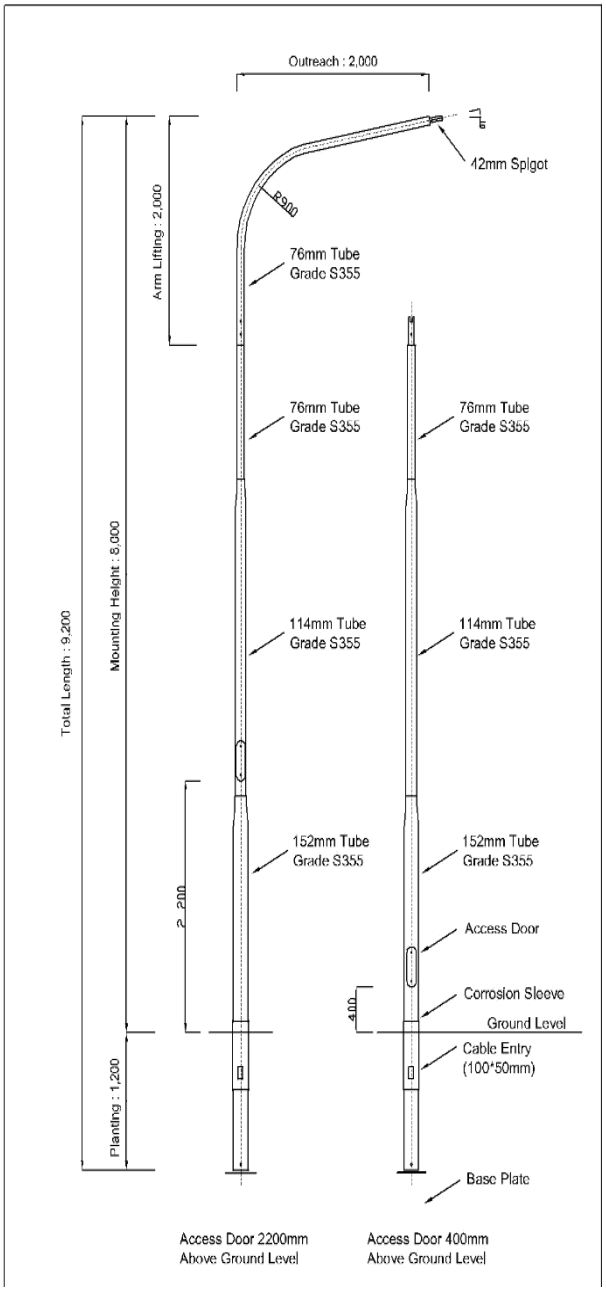

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D1.2	**POLES TRANSMISSION (WOOD):**	All poles will be according to SANS 759 (wooden creosote treated) and a permit to manufacture those poles must accompany the tender document.		
D1.3	**POLES CONCRETE**	Poles will be supplied with either concrete caps or hot dipped galvanized epoxy coated spigots as per order. Poles to be designed to comply with design requirements of SANS 470 –1972. Switch boxes which include a hardwood backboard are to the dimensions detailed below: a) 8.4 m –9m b) 407mm x 127mm x 140mm deep c) 4.5m –720m d) 394mm x 114mm x 127mm deep Cable in boxes size: a)152mm x 152mm x 51mm at both ends of pole		

D2. STREELIGHT BRACKET GALVANISED SLEEVE

D2.1	**Streetlight Bracket Galvanised Sleeve (76mm Spigot) as per Attached Drawing**	**YES**	**NO**
D2.1.1	Sleeve - 300mm x 3mm x 88mm outside diameter + welded cap		
D2.1.2	Pipe welded to the side with a 10° rake - 1.5m x 43mm		
D2.1.3	Galvanized bolts staggered for clamping 4 x M12		

D2.2	**Description**	**YES**	**NO**
D2.2.1	Streetlight Bracket Galvanized Sleeve (42mm Spigot)- 2.5M Double caved outreach arms (See attached picture)		
D2.2.2	Streetlight Bracket Galvanized Sleeve (42mm Spigot) – 2.5M single caved outreach arm (see attached picture)		
D2.2.3	Streetlight Bracket Galvanized Sleeve (42mm Spigot) – 2M double caved outreach arm (see attached picture)		
D2.2.4	Streetlight Bracket Galvanized Sleeve (42mm Spigot) – 2M single caved outreach arm (see attached picture)		

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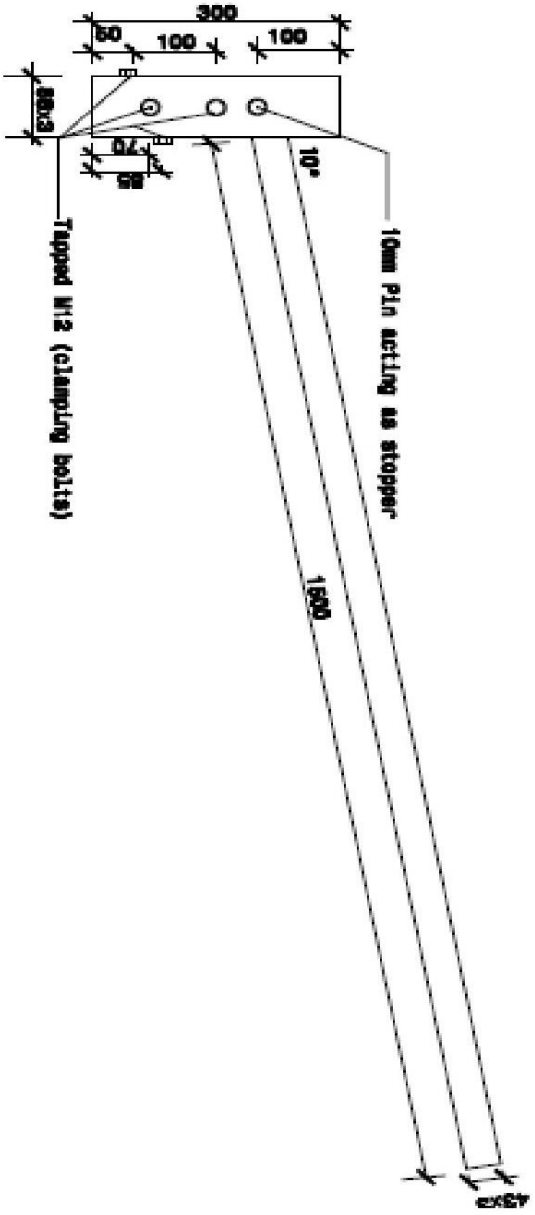
1.5m OUTREACHED ARM FOR 76mm SPIGOT



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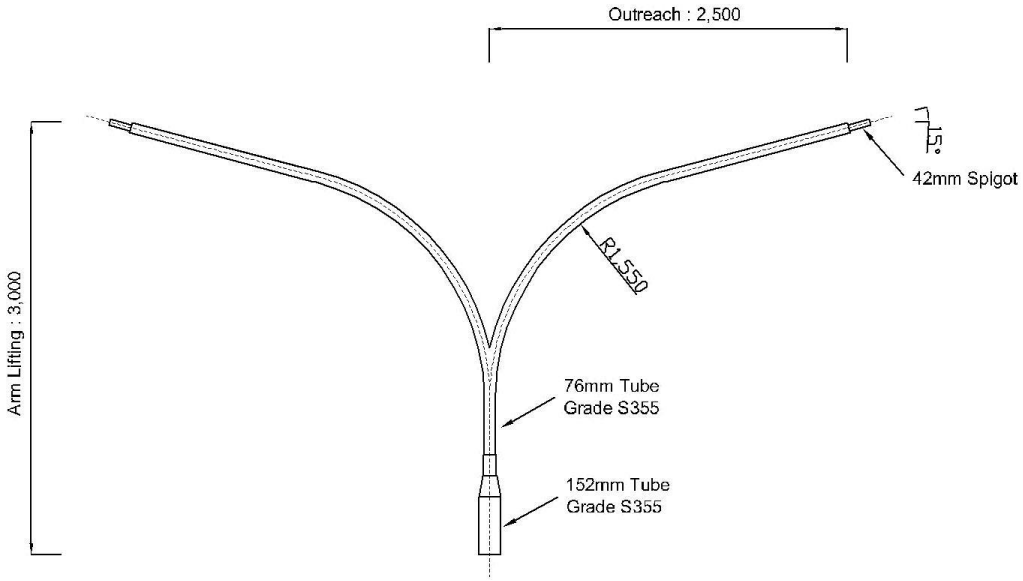
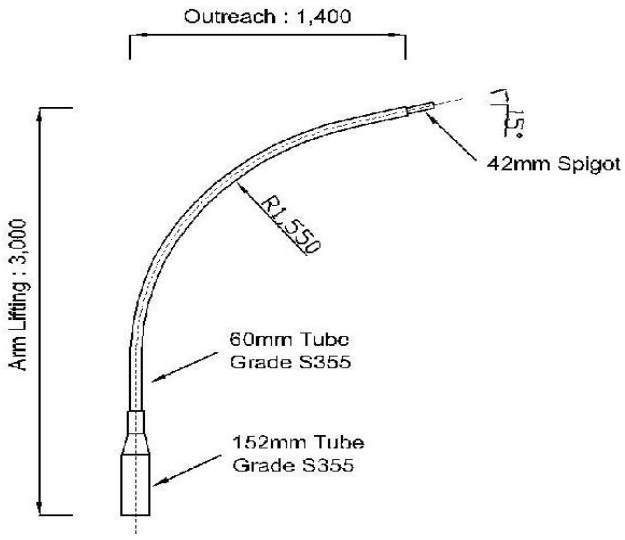
2.5M Double Curved Outreach Arm (Concrete Pole)



2.5M Single Curved Outreach Arm (Concrete Pole)



2.0M Double Curved Outreach Arm (Galvanized)

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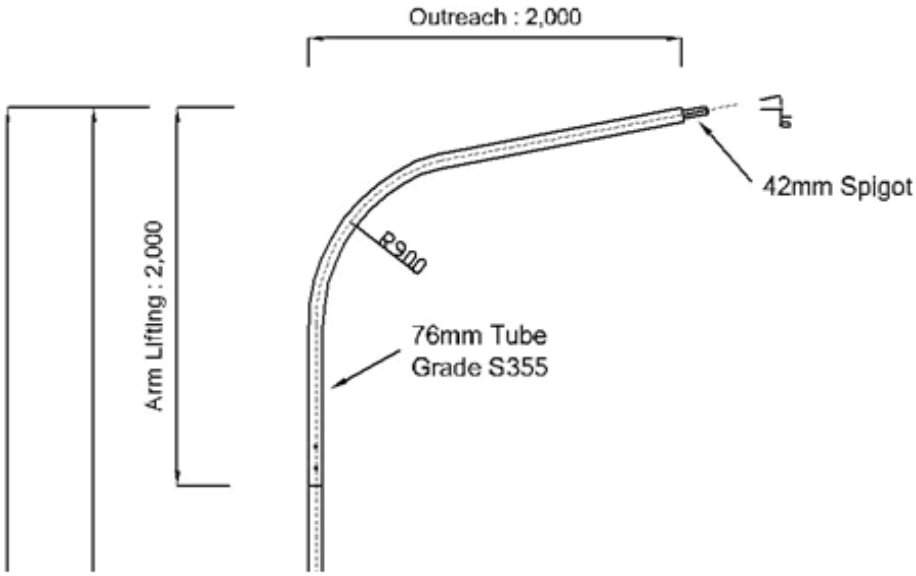
2.0M Single Curved Outreach Arm (Galvanized)



D3. LED LUMINAIRE

D3.1 TECHNICAL REQUIREMENTS OF LIGHT EMMITING DIODE (LED) STREETLIGHT AND LUMINAIRES

The following standards contain provisions which, through reference in this text, constitute requirements of this specification

At the time of publication, the editions indicated were valid

Item No	Specification Item	Description	Yes	No
D3.1.1	IEC 60598-1	Luminaires – Part 1: General requirements and tests		
D3.1.2	IEC 60598-	Luminaires – Part 2: Particular requirements Section 3 Luminaires for road and street lighting		
D3.1.3	ISO 4762	Hexagon socket head cap screws		
D3.1.4	SANS 529	Heat-resisting wiring cables		
D3.1.5	SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test method		
D3.1.6	SANS 1088	Luminaires entries and spigots		
D3.1.7	SANS 60529	Degrees of protection provided by enclosures (IP Code)		
D3.1.8	SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) Part 3: PVC Distribution cables		
D3.1.9	SANS 1574	Electric flexible cores, cords and cables with solid extruded dielectric insulation Part 3: PVC insulated cores and cables		

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D3.1.10	SANS ARP 035:2014	Guidelines for the installation and maintenance of street lighting		
D3.1.11	SANS 61000-3-2	Electromagnetic compatibility (EMC) Part3-2: Limits for harmonic current emission (equipment input current.		
D3.1.12	OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and regulations 1.2.13		
D3.1.13	ARP 035.2015	Guidelines for installation and maintenance of streetlights		

Item No	Description	Yes	No
D3.2	**General**		
a.	The luminaires shall be Class 1 of IEC 60598-1 and be of the totally enclosed type. Luminaire shall be delivered completely assembled with housing, driver, and LED module and protector lens		
b.	The luminaire output shall be provided as nominal flux at Tq of 3		
c.	The colour temperature of the luminaires shall be neutral white, 4000K and a colour rendering index of 70 (minimum).		
d.	The luminaires shall deliver 80% of the initial lumens, when installed for a minimum of 60 000 hours. The bidder shall provide a lumen depreciation graph by means of the IES LM 80-08 data of the LED'. The LED light source test data shall provide the expected data for at least 25% of rated LED light source lifetime, i.e. 15 000 hours. **Documentary evidence of this shall be submitted as annexure** The following information and conditions shall be met: • The LED light source(s) have been tested according to LM-80-08 • The LED drive current specified by the luminaire manufacturer is less than or equal to the drive current specified in the LM-80 test report. • The LED light source(s) manufacture shall indicate a temperature measurement point (Ts) on the light source(s). • The Ts is accessible to allow temporary attachment of a Thermo couple for measurement of in-situ temperature. Access via a temporary hole in the housing, tightly resealed during testing with a flexible sealant allowable. • For the hottest LED light source in the luminaire, the temperature measured at the Ts is less than or equal to the temperature specified in the LM-80 test report for the corresponding drive current.		
e.	The LED module or array shall be designed in such a manner that the failure of one LED shall not cause failure of luminaire Documentary evidence of this shall be submitted.		
f.	Temperature sensors shall be fitted as protection devices to the luminaire, placed directly next to the LEDs. These shall not switch off the luminaire manages its temperature, through the use of sensors and the effect on lumen maintenance, shall be supplied		
g.	The entire assembly and testing of the complete LED luminaire shall be undertaken within an ISO 9001 certified factory, within South Africa.		
D3.3	**I P Rating**		
(a)	The luminaires shall have minimum rating of IP 66 in accordance with SANS 60529 for both the driver and LED module compartments, when normally mounted as per SANS 475		
D3.4	**CONSTRUCTION OF LUMINAIRES**		

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(a)	Luminaires shall be suitable for operation at an ambient temperature, Ta, of 3C. Fixing devices, junctions, water. Pockets and ledges in which condensation may accumulate shall be avoided.		
(b)	The luminaires shall contain a heat sink with no fans, pumps or liquids, and the design thereof on the external surfaces shall prevent the accumulation of dirt and nesting of insects or ants, thus ensuring continuous effective cooling. Heat from the LED source should take the shortest path to the exterior by direct conduction or any other reliable form of cooling that will not compromise the useful life of the LEDs		
(c)	The luminaires shall have aluminium housings of grade EN1706 AC-44300(or higher) aluminium alloy. This shall be substantiated by an independent metallurgical report confirming the grade of aluminium for the luminaires offered.		
(d)	Luminaires shall be supplied in raw aluminium and shall not be powder coated.		
(e)	Ferrous components shall be hot dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application		
(f)	External small components (such as toggle clips, bolts, screws, nuts, washers) shall be stainless steel (grade 304 or better). •Due attention shall be paid to the accessibility of parts and to other requirements necessary for efficient maintenance and cleaning,where required. If screws are used to secure covers, they shall be held captive when opened. •The upgrading and/or service of the LED unit and the driver/power supply shall be possible without removing the whole luminaire but by means of replacing only the optical/gear compartment by means of hinging mechanism. • Various items/components such as the aluminium housings, printed circuit boards (PCB's), glass and stainless-steel latches/clips shall be manufactured (not simply assembled) in South Africa.		
D3.5	**MOUNTING**		
(a)	Spigot entries shall be designed to fit easily over the bracket pipe and shall be truly parallel to the fitting axis and shall comply with Table 1 of SANS 1088:1990		
(b)	Attachment of the luminaire base casting to its bracket arm should be by means of at least two stainless steel M8 grub screws into stainless steel sockets or any other methods to prevent catholic corrosion between stainless steel and aluminium. The attachment of the luminaire should be designed to withstand wind speeds of up to 150 km/hour on the projected surface of the luminaire, without due deflection.		
D3.6	**OPTICS**		
(a)	The luminaire shall be able to be equipped with variety of lenses, providing the desired light distribution, ensuring a great diversity of light distributions for different applications. A minimum of 15 different optic distributions shall be available for flexibility of lighting designs, ensuring compliance to lighting requirements per application.		
(b)	Luminaires should be photo metered according to the C-Gamma system as detailed in CIE Publication No. 27. For LED luminaires with nonreplaceable LED modules, the intensity values shall be given in candela. The results should be published in an intensity distribution table, indicating the intensity in cd/klm at each horizontal and vertical angle. **The intensity distribution table should be converted by an accredited test facility and/or luminaire supplier into a suitable electronic format for use with any of the commercially available lighting computer programs.**		
D3.7	**PROTECTOR**		
(a)	The protector shall be high-impact, toughened, clear flat glass.		
(b)	The protector shall form a seal completely preventing the entry of moisture, dust and insects into the lamp housing. A one-piece gasket, made of silicon sponge material, shall be fitted into groove in the housing and shall be seated in a manner ensuring the integrity of the IP66 rating and shall not work loose during maintenance of the luminaire		

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D3.8	POWER SUPPLY OR DRIVER REQUIREMENTS		
(a)	LED module(s) drivers shall be housed fully within the sealed body of the luminaire		
(b)	The output frequency of the drivers shall be 100Hz or greater, to avoid visible flicker. The harmonic distortion levels of the LED module driver(s) shall comply with the limits as stipulated in SANS 61000-3-2		
(c)	The LED module driver(s) shall operate at a power factor of o, 95 or greater, and the harmonic distortion levels shall be limited so as to not cause interference on the electrical network.		
(d)	The power supply or driver compartment shall be sealed in the same manner as described in items 2.5.1 and 2.5.2		
(e)	The power supply or driver shall be able to withstand surges of up to 10kV/10ka by means of an external inline fused surge protection device mounted inside the gear compartment. This surge protection shall be easily replaceable		
(f)	The power supply or driver should incorporate a thermal switch to prevent exceeding the case temperature for maximum lifetime of equipment		
(g)	The lifetime of the power supply or driven shall be 100 000hrs with 90% survival over the lifetime		
D3.9	**EARTHING**		
(a)	The luminaire shall be earthed in accordance with Clause 13 of the Electrical Machinery Regulations of the OHSACT (Act 85 of 1993)		
(b)	Metal parts of luminaires which may become alive in the event of insulation fault and which are not accessible when the luminaire is mounted, but liable to come into contact with the supporting surface, shall be permanently and reliably connected to an earthing terminal and shall withstand the test specified in IEC 60598-2-3.		
(c)	Earth connections shall be effected by means of suitable lugs in a manner avoiding all possibility of electrolytic corrosion		
D3.10	**WIRING**		
(e)	1 The internal wiring of the luminaires shall be flexible and suitably insulated to withstand the voltage and the temperature		
(f)	Wiring to the LED module compartment shall be suitably grommet, ensuring a perfect seal between compartments		
(g)	The supply terminals shall accept 4mm2 wires and easily accessible. No part of the cover shall damage the supply wires when closed.		
(h)	A clamp fitted for fastening supply wires to body of fitting.		
(i)	Have a supply lead 1,5mm silicone cap tire 10m long. With a 5A Barrel Fuse fitted on wire in, the fitting.		
D3.11	**GUARANTEE**		
(a)	All luminaires offered shall have a minimum guarantee period of five years		
(b)	The scope of this guarantee includes the LED module drivers, luminaire housing, LED module(s), brackets and protector		
(c)	If luminaires are found to have failed within this period as a result of poor manufacturing processes and/ or poor materials it shall be replaced free of charge by the manufacturer		

D4. LIGHT EMITTING DIODE POST TOP LUMINAIRE

Item No	Specifications	Yes	No
a	The luminaire shall consist of a spigot base, lamp compartment with integral control gear and top cover and shall be designed to operate 16LED 36W LED unit. The cable entry grommet shall be designed for the connection of a 3 x 1.5mm² cab tyre of an overall diameter of 9mm The luminaire shall bear the SANS 475 performance mark and the SANS 60598-2-3 safety mark. Luminaire spigot entries comply with SANS 1088 – Table 1 for type 2:ø76mm x 75mm.		

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b	The luminaire shall bear the SANS 475 performance mark and the SANS 60598-2-3 safety mark. Luminaire spigot entries comply with SANS 1088 –Table 1 for type 2:ø76mm x 75mm.		
c	The luminaire shall have a degree of protection that complies with SANS 60598-2-3		
d	Lamp compartment: IP 65		
e	The IP Rating shall be certified by an SABS test report (Attached as annexure_____)		
f	The top cover shall be robustly constructed from die-cast aluminium; powder coated for added protection in the colour RAL6005 and shall be firmly secured with a single aluminium décor casting. White reflective paint shall be on the inside		
g	The spigot base shall be manufactured from high-pressure die-cast aluminium, powder coated for added protection in the colour specified. The luminaire shall be secured to the pole by three M8 stainless steel grub screws.		
h.	The high-impact non-discolouring acrylic diffuser bowl shall be hexagonal in shape and shall be smooth on the outside, but shall have internal prisms to reduce the direct glare component. A drip ridge shall be provided at the bottom edge to avoid direct rain water contact with the gasket.		
i	**The LED unit shall be designed to meet the lighting criteria for Group B roads as required.** a. Design life: In excess of 15 years b. The LED replacement will be for existing 125W MV and or 70W HPS Post Tops on a mounting height of between 3-6m. The tenderer shall provide a photometric design proving that the offered unit can replace the 125W MV or 70W HPS units and retain the same lux levels as before. (Attached as annexure……) c. The retrofit shall be down facing and completely glare free. The LED Engine shall be equipped with optical lenses to control the light in a specific direction		
j	The retrofit unit shall incorporate a temperature sensor which monitors the temperature of the LEDs on the PCBs. Once a critical temperature is reached, the current shall be reduced to a safe temperature level. The temperature sensor shall not completely switch off the LEDs at high temperatures, which shall facilitate maintenance to be undertaken during daylight hours.		
k	The power supply or driver shall be able to withstand surges of up to 10kV/10kA by means of an external inline fused surge protection device mounted inside the gear compartment. This surge protection shall be easily replaceable.		
l	The power supply or driver should incorporate a thermal switch to prevent exceeding the case temperature for maximum life time of equipment. The lifetime of the power supply or driver shall be100 000hrs with 90% survival over the lifetime.		
m	Minimum IP rating of the sealed LED compartment shall be IP66.		
n	The Post Top luminaire shall be certified, in terms of SANS 60598, to operate at an ambient temperature of 35°C. The thermal design shall be particularly designed for African exterior conditions, i.e. high temperatures, high pollution, corrosion resistant.		
o	The LED life expectancy shall be 60,000 hours at 80% lumen maintenance		
p	**Use of high efficiency>90lumens / watt: LED‟s Absolute Photometry) CRI > 70. Documentary evidence of compliance to this clause shall be submitted with the tender. (Attached as ……)**		
q	Colour temperature shall be neutral white (4000K) with an option to be supplied in warm white (3000K)		
Power Supply			
	• The power factor shall be rat		

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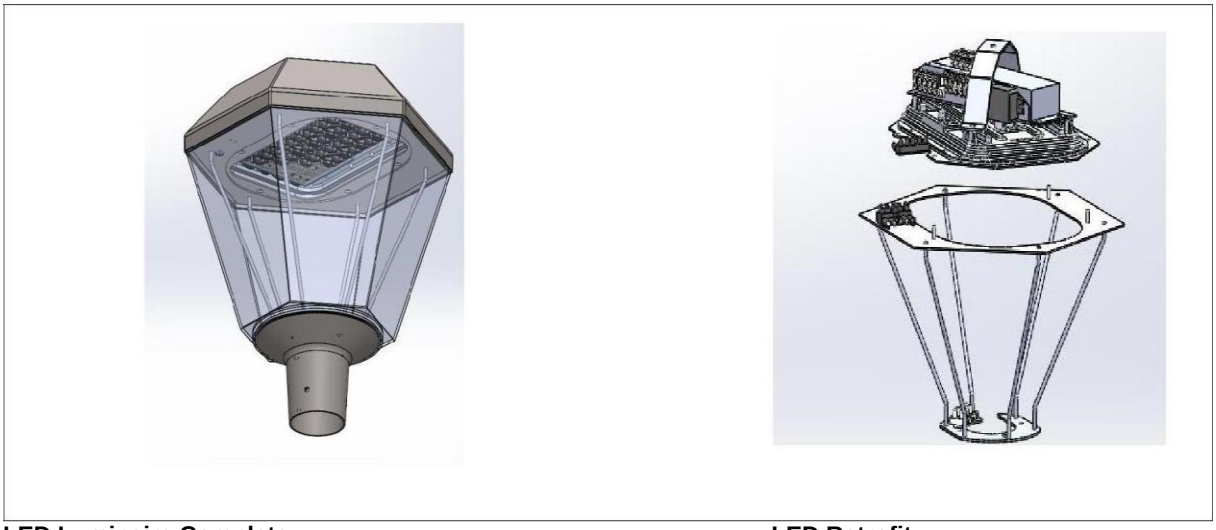
	• The power supply shall be removable and shall be suitable for operation with the specified rating of the lamp on a 120-277 VAC 50Hz single phase system. • Operating temperatures shall be from -15deg to +60deg on the housing (case temperature • Operating humidity shall be from 20% to 95%. • The control gear shall incorporate a thermal switch for protection when exceeding the case temperature • Provisions shall be made to withstand surges up to 10kV/10kA.		
	The unit shall be EMC compliant to the SANS 55015 and SANS 61347-1 Standard		
	All internal wiring shall be teflon® coated with protective sleeving to prevent damage by possible abrasion. All screws, bolts and metal parts shall be stainless steel or noncorrosive material. Mains connections shall be by means of a Suitable screw terminal block with a wire clamping contact		
	Only offers for LED post top luminaires which are manufactured and supported by the original manufacturer, with maintenance facilities and spare parts located **in South Africa** will be Considered.		
	The LED post top luminaire shall be identical and similar to the below two-line drawing/artist impressions.		



LED Luminaire Complete **LED Retrofit**

D4.3 DECORATIVE BELL-SHAPED LUMINAIRE LED

The luminaire shall be manufactured by an ISO 9002 accredited manufacturer. The luminaire shall bear the SANS 1277 mark and the SANS IEC 60598-2-3 safety mark. The electronic power supply shall be suitable for operation with a 220 - 250V/ 50Hz single phase system. The luminaire shall be available in two sizes (option 1 & 2), with a range of LED photometric engine. It shall be equipped with an electronic temperature device to prevent overheating directly next to LED'S.

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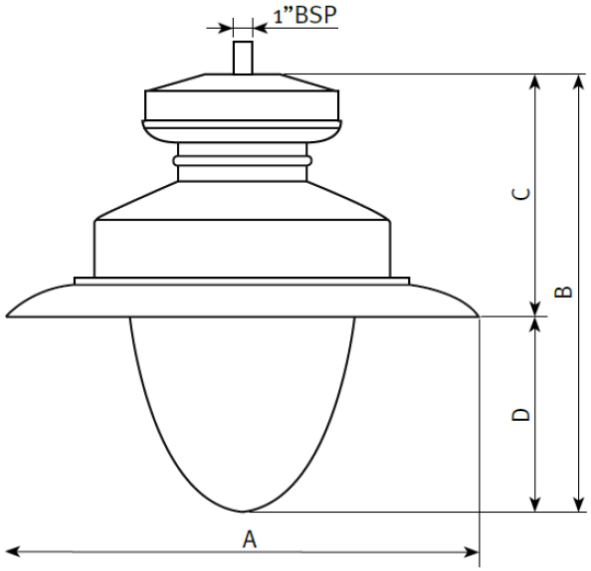
Specification

No	Description		Compliance		
			Yes	No	Alternative
(a)	Optional Compartment Tightness Level	IP 66			
(b)	Control Gear Tightness Level	IP 43			
(c)	Impact Resistance (PC)	IK 08			
(d)	Electrical Class	1			
(e)	Operating Temperature	-40°C to +40°C			
(f)	Material Body	Aluminium			
(g)	Protector	High Impact Acrylic			
(h)	Aerodynamic resistance (CxS) Option1	0.32m²			
(i)	Option 2	0.98m²			
(j)	Colour (RAL 9017)	Black			
(k)	Wattage	71			
(l)	Flux	2600lm – 10300lm			
(m)	Correlated colour temperature (CCT)	4000k			



	Option 1	Option 2
A	ø590	ø700
B	583	682
C	310	390
D	273	292

Illustration of the decorative bell shaped LED

D4.4 Bulk head fittings LED

The luminaire shall bear the SANS 60598-2-1 mark and with minimum IP rating 65. Operating at temperature of -20°C to +40°C. Minimum of 50 000hours lifetime. Body manufactured from high pressure die-cast aluminium. Electrical cable entry to be at the rear of luminaire. Defuser must be manufactured from a non-discolouring injection moulded high-impact acrylic. Be equipped with a high-purity, single piece, die-formed aluminium reflector mounted on the reflector back plate. Control gear to be mounted direct onto the body to provide optimum heat dissipation.

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D4.5 Down lighter LED

The luminaire shall bear the SANS 60598-2-1 mark and SANS 60598-2-2 safety marks. To operate LED light sources of up to 28W in an ambient temperature of up to 35°C, without reducing the lifetime of 50 000 Eco hours. Connection by means of a suitable screw terminal block.
Voltage 230V/50Hz

D4.6 Bulkhead Round LED

Specifications

No	Description		Yes	No
D4.6.1	**General Specifications**			
(a)		SANS 60598-2-3 Safety Mark		
(b)		A silicone gasket in a tongue in groove designed interface to ensure an IP65 ingress protection between the LED compartment and the driver		
(c)		Plug connector installed to separate LED compartment from the base for easy installation		
(d)		Internal wiring to be a Teflon type to prevent damage by possible abrasion		
(e)		All screws to be of stainless-steel type		
D4.6.2	**Photometry**			
(a)	Light Source	LED		
(b)	LED	Midpower 3030		
(c)	Light Colour	Neutral White (4000K)		
(d)	Colour rendering (Ra)	>80		
(e)	Lumen Package (15W)	2060lm		
(f)	Optics	Symmetric		
D4.6.3	**Mechanics**			
(a)	Electronic Control gear	Constant Current LED Driver		
(b)	Material	Housing: Die-cast Aluminium Protector: High-impact Acrylic		
(c)	Dimensions (LxWxHx Ø) mm	290 x 290 x 70 x 290		
(d)	Aerodynamic resistance (CxS)	0.2023m²		

D5 SQUARE LED DOWN LIGHTS

Item No	Description	Yes	No
16.1	The luminaire shall bear the SANS 60598-2-1 mark and SANS 60598-2-2 safety marks. To operate LED light sources of up to 28W in an ambient temperature of up to 35°C, without reducing the lifetime of 50 000 Eco hours. Die-cast Aluminium with Polycarbonate Cover complete with Electronic LED Driver. Colour White		

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D6. DAY/NIGHT SWITCHES

ITEM No	DESCRIPTION	Max Switching capacity	Voltage(V)	Width(mm)	Height (mm)	Yes	No
D6.1	To be convenient for wall or any other flat surface mounting. Watertight junction box to be equipped with strip connectors, brackets, six side inlets and one rear inlet to ensure installation versatility. Side inlets to be M20 treaded with re-insertable knock outs	16	230	87	87		
D6.2	To be suitable for mounting inside enclosures such as substations, electrical boxes and streetlight luminaires. Equipped with M20 entry, terminal block and 300mm wire leads. Fixing the daylight switch may be either by the enclosed bracket or by securing a 20mm diameter hole with the enclosed locknut together with rubber seals.	16	230	32	68.8		

D7. BOWL FITTINGS & GALLERIES & GALL

			Compliance	
ITEM No	**DESCRIPTION**	**Bowl size**	**Yes**	**No**
D7.1	Bowl: Opal Glass bowl (6" & 8") Colour: White Class: II IP Rating: 44	**6"**		
D7.2		**8"**		
		Gallery size		
D7.3		**6"**		
D7.4		**8"**		

D8. NON-SPARKING END CONNECTORS AND INSULATING SLEEVES

							Compliance	
ITEM No	**DESCRIPTION**	**Conductor size**	**Internal(hole) diameter(mm2)**	**Length (mm)**	**Height(mm)**	**Allen key size**	**Yes**	**No**
D8.1	The non-sparking end connector shall be made from brass and nickel with a screw on top that can only be opened or tightened with an Alen key	2 x 16mm2	10mm2	13	13	4		
D8.2		2 x 25mm2	13.5mm2	15	19	4		

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D9. LED TUBE FITTINGS

			Compliance	
ITEM NO	**Description**		**YES**	**NO**
D9.1.	Dimensions	a) 675mm (L) x 113mm(W)x 63mm(H) [2ft] b)1300mm(L)x113mm(W)x 63mm(H) [4ft] c)1600mm(L) x 113mm(W) x 63mm(H) [5ft]		
D9.2	IP rating	65 Vapour Proof		
D9.3	Input Voltage	100 -250 VAC		
D9.4	Material	ABS Housing / PC Clips or Stainless-steel clips		
D9.5	Operating temperature	-20º C to 50º C		
D9.6	LED	Must be wired for two LED tubes single sided		

D10 LED TUBES

			Compliance	
ITEM NO	**Description**		**YES**	**NO**
D10.1	LED tube suitable for a 2ft LED fitting	Watt: 9W Colour Temp: 600k Lumens: 900		
D10.2	LED tube suitable for a 4ft LED fitting	Watt: 18W Colour Temp: 600-6500k Lumens: 900		
D10.3	LED tube suitable for a 5ft LED fitting	Watt: 18W Colour Temp: 600-6500k Lumens: 900		

D.11 SOLAR STREETLIGHT SPECIFICATIONS

D.11.1 RETROFIT SOLAR SPECIFICATION

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		Compliance	
ITEM NO	**Description**	**YES**	**NO**
	• The luminaire must be able fit on a standard 76mm streetlight pole. • The luminaire must be produced in an ISO 9001 accredited factory within South Africa • Luminaire • The luminaire should offer efficient thermal management of the LED's. • The battery, charge controller and LED engine compartments shall be clearly separated to ensure the intended battery life is achieved. • All compartments as mentioned above shall be able to be accessed individually to ensure future maintenance occurs without another being compromised. • The luminaire must be IP66 rated. • The LED engine compartment should be sealed by means of a silicone gasket and use IK07 acrylic diffuser for the post top version and IK 10 polycarbonate diffuser for the streetlight version to ensure maximum efficiency and easy cleaning – so called "IP rated lenses" will not be acceptable. • The LED's lifetime used should at least be L70B10 based on 60 000 hours @ TQ 25° C. • The luminaire housing must be manufactured of durable NON-CORROSIVE material to withstand the most corrosive environments. The different components shall be manufactured of the following: **Post Top Version:** • Spigot – Marine grade high-pressure die-cast aluminium (EN 1706 AC-44300) • Top cover – Acrylonitrile styrene acrylate (ASA) • Protector – Hexagon Shaped High-impact Acryilc **Streetlight Version:** • Housing – Marine grade high-pressure die-cast aluminium (EN 1706 AC-44300) • Top cover – Acrylonitrile styrene acrylate (ASA) • Protector – High-impact Polycarbonate • Material certificates should be submitted at the time of tender. • The LED's should be able to be supplied in the standard option of 4000K, however also have options to supply in 3000 and 5700K. • The Luminaire entries and spigots shall comply with SANS 1088 **Photovoltaic Panels** • The photovoltaic panels must be Tier 1 Photovoltaic modules which ensures optimum performance and reliability. The solar panel must have a minimum capacity of: • 30W Streetlight 200W • 26W Post Top 200W		

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	• 46W Streetlight 400W • The panel type should be able to ensure maximum harvesting of the available energy, even in low light conditions. • Tier 1 manufacturers offer a 25-year linear performance warranty for a minimum of 81% of the nominal power output of the module over the 25-year life cycle as well as a 10-year product warranty. • Further the panels have a global quality standards certification in accordance with IEC-standards 61215 and IEC 61730 and this assures compliance to international quality control standards. • The SOLAR panel should be wrapped neatly around the pole to conceal the battery housing. **Power storage devices –** • LiFePO4 (Lithium Iron Phosphate) technology should be offered as a minimum standard. • In addition, all LiFePO4 battery packs must have an integrated Battery Management System (BMS) which monitors the health, charging and discharging of the battery pack. This safeguards the cells so that they are not over charged or discharged, maximising their lifetime. The energy storage must have a minimum capacity of: • 30W Streetlight 42Ah • 26W Post Top 42Ah • 46W Streetlight 84Ah • Battery pack operating temperature: -20°C to +40°C. • The battery pack should be housed within an external HDG battery enclosure and mounted on a standard 76mm streetlight pole. • The LiFePO4 battery used should have a minimum warranty of 5 (five) years. **Charge Controller –** • The charge controller must regulate the flow of current from the solar panel to the battery during daytime and from the battery to the luminaire at night time. • The charge controller should be of the MPPT type as PWM controllers would not be permitted. • The charge controller should prevent the power storage device from overcharging and deep discharging past 80%, thus increasing system efficiency and expected lifespan. • The charge controller should act as a daylight switch by monitoring the voltage produced by the PV panel. When the voltage dips below a predetermined level it assumes that the sun has set and switches the luminaire on. When the voltage climbs above this threshold again, the charge controller assumes that the sun has risen and switches the luminaire off again. • Even at low sun radiation periods due to inclement weather, the charge controller used should be of the “anti-blackout” type, meaning that the charge controller will assess energy stored		

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	and regulate the output in a way that would avoid total darkness from occurring. **The following features are mandatory in the offered solar solution**: • Voltage and current regulation • Programmable charging technology • Current compensated load disconnection • Automatic load reconnection • Temperature compensation • Integrated self-test • Overcharge protection • Deep discharge protection • Reverse polarity protection of load, module and battery • Short circuit protection of load and module • Open circuit protection without battery • Reverse current protection at night • Over-temperature and overload protection • Battery overvoltage shutdown **Technical Illumination Performance** • A conforming lighting design should be submitted at time of tender indicating the required road class is achievable at 100% lumen output. • The luminaire should be able to meet the various SANS lighting requirements through effective dispersion of light through lens distributions. • The luminaire may in no way be tilted to achieve the required values and must be installed on the fixed spigot provided which would not exceed the 5-degree tilt as designed for. • Increasing the luminaire tilt will increase the windage risk to the pole structure and may not occur. • Any luminaire not meeting a minimum required output of 160lumen/W (nominal flux) would not be considered. • The dimming profile should be clearly indicated. • No movement sensors will be allowed. • The luminaire total output @ 100% should be stated clearly by means of a relevant table that could be assessed by normal math calculation. Nominal flux for the luminaire @ 100% operation shall be greater than: • 30W Streetlight 5100 lumen • 26W Post Top 4200 lumen • 46W Streetlight 8500 lumen		

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D.11.2 All-in-One Solar Post Top Specification

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
	Luminaire – • The luminaire should offer efficient thermal management of the LED's. • The battery, charge controller and LED engine compartments shall be clearly separated to ensure the intended battery life is achieved. • All compartments as mentioned above shall be able to be accessed individually to ensure future maintenance occurs without another being compromised. • The luminaire must be IP66 rated. • The LED engine compartment should be sealed by means of a silicone gasket and use IK10 polycarbonate lens to ensure maximum efficiency and easy cleaning – so called "IP rated lenses" will not be acceptable. • The LED's lifetime used should at least be L80B10 based on 50 000 hours @ TQ 25° C. • The luminaire housing must be manufactured of durable NON-CORROSIVE material to withstand the most corrosive environments. • It would be preferable that the luminaire housing is made from a material that has a very to no second-hand value to reduce the risk and threat of vandalism. The different components shall be manufactured of the following: • Spigot – Marine grade high-pressure die-cast aluminium (EN 1706 AC-44300)		

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	• Top cover – Acrylonitrile styrene acrylate (ASA) • Protector – High-impact Polycarbonate • Material certificates should be submitted at the time of tender. • The LED's should be able to be supplied in the standard option of 4000K, however also have options to supply in 3000 and 5700K. • The luminaire shall be fixed to the pole by means of the fixed spigot which places the SOLAR panel in a range of between a minus and plus 5-degree tilt to ensure that the luminaire performs adequately as designed for in terms of charging the LiFePO4 battery. • The Luminaire entries and spigots shall comply with SANS 1088. **Photovoltaic Panels** • The photovoltaic panels must be Tier 1 Photovoltaic modules which ensures optimum performance and reliability. • The solar panel must have a minimum capacity of 50W. • The panel type should be able to ensure maximum harvesting of the available energy, even in low light conditions. • Tier 1 manufacturers offer a 25-year linear performance warranty for a minimum of 81% of the nominal power output of the module over the 25-year life cycle as well as a 10-year product warranty. • Further the panels have a global quality standards certification in accordance with IEC-standards 61215 and IEC 61730 and this assures compliance to international quality control standards. • The SOLAR panel shall be "FRAMELESS" to ensure that no dirt is able to accumulate on the ridge of the SOLAR panel. **Power storage devices** • LiFePO4 (Lithium Iron Phosphate) technology should be offered as a minimum standard. • In addition, all LiFePO4 battery packs must have an integrated Battery Management System (BMS) which monitors the health, charging and discharging of the battery pack. This safeguards the cells so that they are not over charged or discharged, maximising their lifetime. • The energy storage must have a minimum capacity of 14Ah • Battery pack operating temperature: -20°C to +40°C. • The battery pack should be insulated to prevent any possible contact with the luminaire housing. • The LiFePO4 battery used should have a minimum warranty of 5 (five) years. **Charge Controller** • The charge controller must regulate the flow of current from the solar panel to the battery during daytime and from the battery to the luminaire at night time. • The charge controller should be of the MPPT type as PWM controllers would not be permitted. • The charge controller should prevent the power storage device from overcharging and deep discharging past 80%, thus increasing system efficiency and expected lifespan. • The charge controller should act as a daylight switch by monitoring the voltage produced by the PV panel. When the		

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	voltage dips below a predetermined level it assumes that the sun has set and switches the luminaire on. When the voltage climbs above this threshold again, the charge controller assumes that the sun has risen and switches the luminaire off again. • Even at low sun radiation periods due to inclement weather, the charge controller used should be of the "anti-blackout" type, meaning that the charge controller will assess energy stored and regulate the output in a way that would avoid total darkness from occurring. **The following features are mandatory in the offered solar solution:** • · Voltage and current regulation • · Programmable charging technology • · Current compensated load disconnection • · Automatic load reconnection • · Temperature compensation • · Integrated self-test • · Overcharge protection • · Deep discharge protection • · Reverse polarity protection of load, module and battery • · Short circuit protection of load and module • · Open circuit protection without battery • · Reverse current protection at night • · Over-temperature and overload protection • · Battery overvoltage shutdown **Technical Illumination Performance –** • A conforming lighting design should be submitted at time of tender indicating the required road class is achievable at 100% lumen output. • The luminaire should be able to meet the various SANS lighting requirements through effective dispersion of light through lens distributions. • The luminaire may in no way be tilted to achieve the required values and must be installed on the fixed spigot provided which would not exceed the 5-degree tilt as designed for. • Increasing the luminaire tilt will increase the windage risk to the pole structure and may not occur. • Any luminaire not meeting a minimum required output of 220lumen/W (nominal flux) would not be considered. • The dimming profile should be clearly indicated. • No movement sensors will be allowed. • The luminaire total output @ 100% should be stated clearly by means of a relevant table that could be assessed by normal math calculation. • Nominal flux for the luminaire @ 100% operation shall be greater than 2800 lumen.		

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D.11.3 All-in-One Solar Luminaire Specification

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
	Luminaire – • The luminaire should offer efficient thermal management of the LED's. • The battery, charge controller and LED engine compartments shall be clearly separated to ensure the intended battery life is achieved. • All compartments as mentioned above shall be able to be accessed individually to ensure future maintenance occurs without another being compromised. • The luminaire must be IP66 rated. • The LED engine compartment should be sealed by means of a silicone gasket and use glass to ensure maximum efficiency and easy cleaning – so called "IP rated lenses" will not be acceptable. • The LED's lifetime used should at least be L95B10 based on 100 000 hours @ TQ 25° C. • The luminaire housing must be manufactured of durable NON-CORROSIVE material to withstand the most corrosive environments. • It would be preferable that the luminaire housing is made from a material that has a very to no second-hand value to reduce the risk and threat of vandalism. • Material certificates should be submitted at the time of tender. • The LED's should be able to be supplied in the standard option of 4000K, however also have options to supply in 3000 and 5700K. • The luminaire shall be fixed to the pole by means of the fixed		

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	spigot which places the SOLAR panel in a range of between a minus and plus 5-degree tilt to ensure that the luminaire performs adequately as designed for in terms of charging the LiFePO4 battery. • The Luminaire entries and spigots shall comply with SANS 1088. **Photovoltaic Panels** • The photovoltaic panels must be Tier 1 Photovoltaic modules which ensures optimum performance and reliability. • The solar panel must have a minimum capacity of 120W. • The panel type should be able to ensure maximum harvesting of the available energy, even in low light conditions. • Tier 1 manufacturers offer a 25-year linear performance warranty for a minimum of 81% of the nominal power output of the module over the 25-year life cycle as well as a 10-year product warranty. • Further the panels have a global quality standards certification in accordance with IEC-standards 61215 and IEC 61730 and this assures compliance to international quality control standards. • The SOLAR panel shall be “FRAMELESS” to ensure that no dirt is able to accumulate on the ridge of the SOLAR panel. **Power storage devices** • LiFePO4 (Lithium Iron Phosphate) technology should be offered as a minimum standard. • In addition, all LiFePO4 battery packs must have an integrated Battery Management System (BMS) which monitors the health, charging and discharging of the battery pack. This safeguards the cells so that they are not over charged or discharged, maximising their lifetime. • The energy storage must have a minimum capacity of 36Ah • Battery pack operating temperature: -20°C to +60°C. • The battery pack should be insulated to prevent any possible contact with the luminaire housing. • The LiFePO4 battery used should have a minimum warranty of 5 (five) years. • Charge Controller – • The charge controller must regulate the flow of current from the solar panel to the battery during daytime and from the battery to the luminaire at night time. • The charge controller should be of the MPPT type as PWM controllers would not be permitted. • The charge controller should prevent the power storage device from overcharging and deep discharging past 80%, thus increasing system efficiency and expected lifespan. • The charge controller should act as a daylight switch by monitoring the voltage produced by the PV panel. When the voltage dips below a predetermined level it assumes that the sun has set and switches the luminaire on. When the voltage climbs above this threshold again, the charge controller assumes that the sun has risen and switches the luminaire off again. • Even at low sun radiation periods due to inclement weather, the charge controller used should be of the “anti-blackout”		

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	type, meaning that the charge controller will assess energy stored and regulate the output in a way that would avoid total darkness from occurring. **The following features are mandatory in the offered solar solution:** • · Voltage and current regulation • · Programmable charging technology • · Current compensated load disconnection • · Automatic load reconnection • · Temperature compensation • · Integrated self-test • · Overcharge protection • · Deep discharge protection • · Reverse polarity protection of load, module and battery • · Short circuit protection of load and module • · Open circuit protection without battery • · Reverse current protection at night • · Over-temperature and overload protection • · Battery overvoltage shutdown **Technical Illumination Performance** • A conforming lighting design should be submitted at time of tender indicating the required road class is achievable at 100% lumen output. • The luminaire should be able to meet the various SANS lighting requirements through effective dispersion of light through lens distributions. • The luminaire may in no way be tilted to achieve the required values and must be installed on the fixed spigot provided which would not exceed the 5-degree tilt as designed for. • Increasing the luminaire tilt will increase the windage risk to the pole structure and may not occur. • Any luminaire not meeting a minimum required output of 200lumen/W (nominal flux) would not be considered. • The dimming profile should be clearly indicated. • No movement sensors will be allowed. • The luminaire total output @ 100% should be stated clearly by means of a relevant table that could be assessed by normal math calculation. • Nominal flux for the luminaire @ 100% operation shall be greater than 6000 lumen.		

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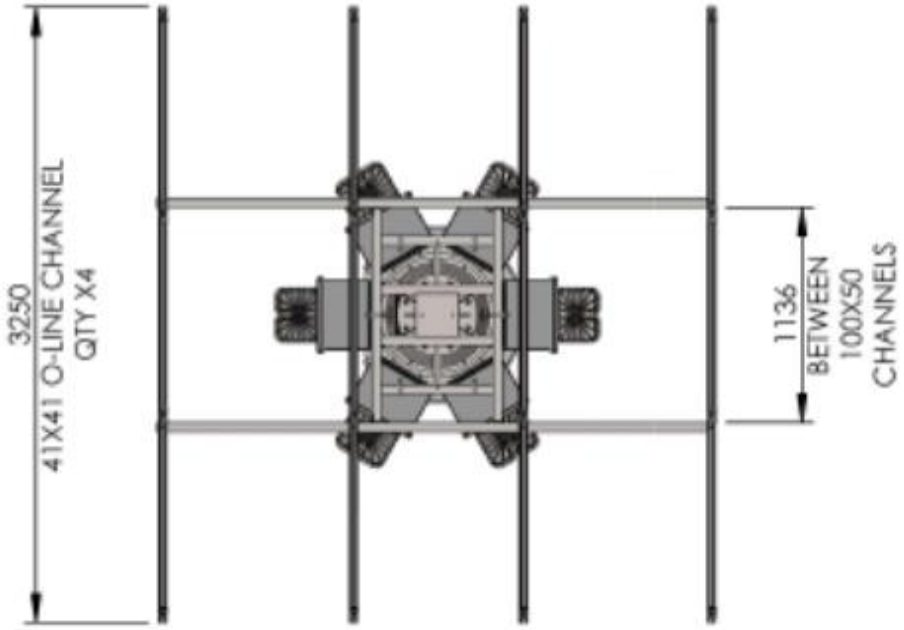
D.11.4 Solar High Mast Specification



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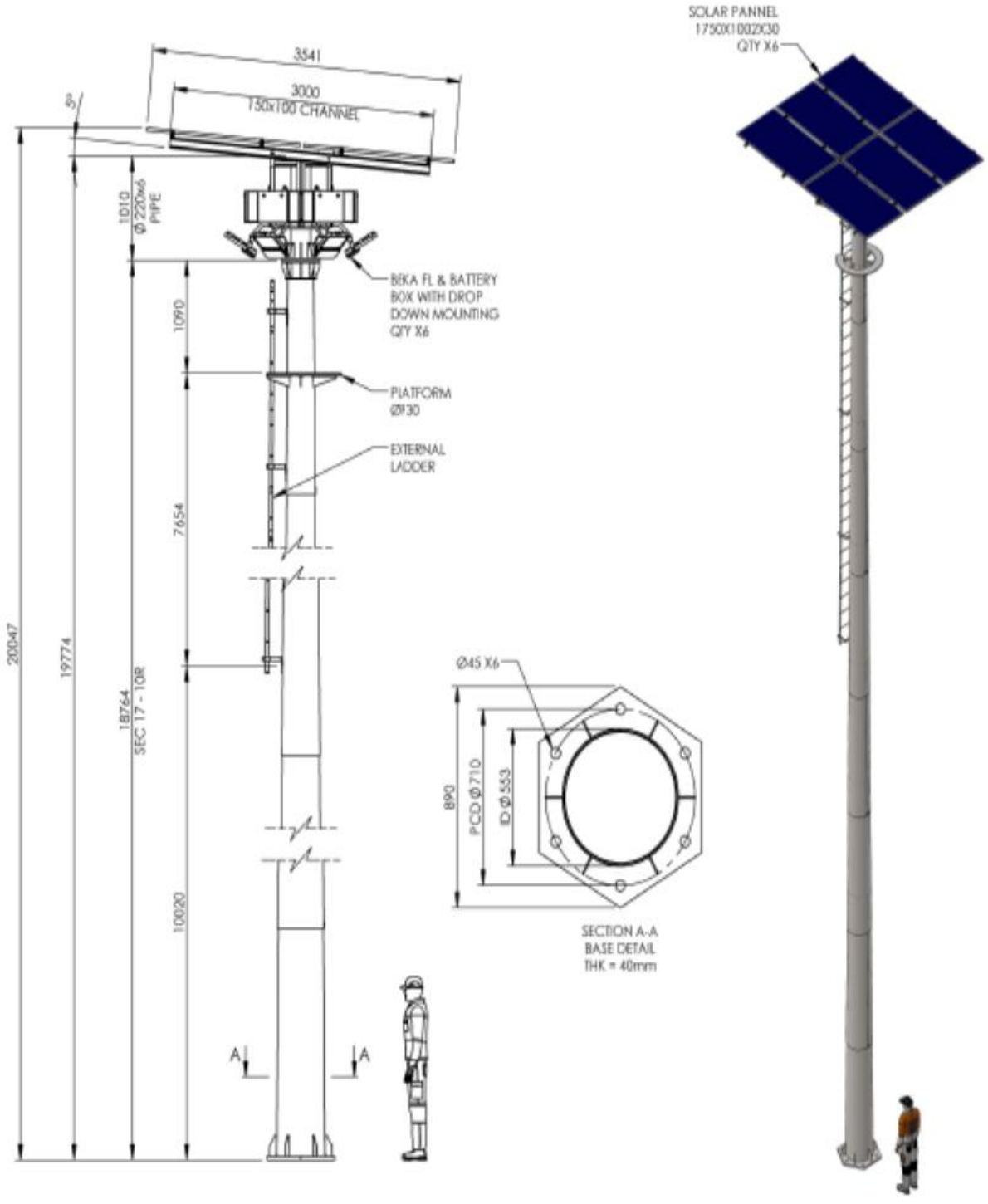

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		Compliance	
ITEM NO	**Description**	**YES**	**NO**
	Component Specific Specification – **Luminaire –** • The luminaire should offer efficient thermal management of the LED's. • The luminaire housing must be manufactured of marine grade high-pressure die-cast aluminium (EN 1706 AC-44300) to withstand the most corrosive environments. • Material certificates should be submitted at the time of tender. • Photovoltaic Panels • The photovoltaic panels must be Tier 1 Photovoltaic modules which ensures optimum performance and reliability. • The panel type should be Monocrystaline Half-Cell to ensure maximum harvesting of the available energy, even in low light conditions. • Tier 1 manufacturers offer a 25-year linear performance warranty for a minimum of 81% of the nominal power output of the module over the 25-year life cycle as well as a 10-year product warranty. • The PV panels must comply to the stringent TUV Rheinland Power controlled inspection mark. • Further the panels have a global quality standards certification in accordance with IEC-standards 61215 and IEC 61730 and this assures compliance to international quality control standards **Power storage devices** • LiFe-PO (Lithium Iron Phosphate) technology should be offered. • In addition, all LiFe-PO battery packs must have an integrated Battery Management System (BMS) which monitors the health, charging and discharging of the battery pack. This safeguards the cells so that they are not over charged or discharged, maximising their lifetime. • Battery pack operating temperature: -20°C to +60°C • The power storage enclosure should be manufactured from a NON-CORROSIVE material and should be stipulated at time of tender. • The non-corrosive enclosure should be accessible only with a vandal proof key mechanism for increased security. **Charge Controller** • The charge controller must regulate the flow of current from the solar panel to the battery during daytime and from the battery to the luminaire at night time. • The charge controller should be of the MPPT type as PWM controllers would not be permitted. • The charge controller should prevent the power storage device from overcharging and deep discharging thus increasing system efficiency and expected lifespan. • The charge controller should act as a daylight switch by monitoring the voltage produced by the PV panel. When the voltage dips below a predetermined level it assumes that the sun has set and switches the luminaire on. When the voltage		

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	climbs above this threshold again, the charge controller assumes that the sun has risen and switches the luminaire off again. • Even at low sun radiation periods due to inclement weather, the charge controller used should be of the “anti-blackout” type controller, meaning that the charge controller will assess energy stored and regulate the output in a way that would avoid total darkness from occurring. **The following features are mandatory in the offered solar solution:** • · Voltage and current regulation • · Programmable charging technology • · Current compensated load disconnection • · Automatic load reconnection • · Temperature compensation • · Integrated self-test • · Monthly maintenance charge electronic protection functions • · Overcharge protection • · Deep discharge protection • · Reverse polarity protection of load, module and battery • · Automatic electronic fuse • · Short circuit protection of load and module • · Open circuit protection without battery • · Reverse current protection at night • · Over-temperature and overload protection • · Battery overvoltage shutdown • · Bluetooth monitoring from the ground level **Technical Illumination Performance** • A design should be submitted at time of tender indicating the spacing achieved in a triangular spacing between masts. • A mast height of 20m mounting height should be used for calculations unless otherwise specified. • A minimum distance of 200m should be achieved between masts where the 0,4 lux line should be indicated using a maintenance factor of 0,9.		

D.11.5 Fixed External access Solar Panel Lighting Mask

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
	• Scope Construction of Mask • Design Height: 22.00 mm Width: 25.00 mm Weight: 9.50 gms Depth: 40.00 mm		

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D.11.6 LED Streetlight Luminaires

			Compliance	
ITEM NO	**Description**		**YES**	**NO**
	SCOPE This specification details the manufacture, testing, supply and delivery of street light luminaires, as specified below. The street light luminaires shall be suitable for use with light emitting diode (LED) technology.			
	CIE Publication 27	Photometry of luminaires for street lighting		
	SATS 17576:2014	Light-emitting diode products for interior lighting, streetlighting and floodlighting — Performance requirements		
	IEC 60598-1	Luminaires - Part 1: General requirements and tests		
	IEC 60598-2-3	Luminaires - Part 2: Particular requirements - Section 3: Luminaires for road and street lighting		
	SANS 475	Luminaires for interior lighting, streetlighting and floodlighting Performance requirements		
	SANS 529	Heat-resisting wiring cables		
	SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods.		
	SANS 1088	Luminaire entries and spigots		
	SANS 60529	Degrees of protection provided by enclosures (IP Code)		
	ISO 4762	Hexagon socket head cap screws		
	SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 3: PVC Distribution cables		
	SANS 1574	Electric flexible cores, cords and cables with solid extruded dielectric insulation Part 3: PVC-insulated cores and cables		
	SANS ARP 035	Guidelines for the installation and maintenance of street lighting		
	OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations		
	SANS 61000-3-2	Electromagnetic compatibility (EMC) Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)		
	IEC 61000-4-5	Electromagnetic compatibility (EMC) - Surge immunity test		
	IEC 55015	Limits and methods of measurements of radio disturbance characteristics of electrical lighting and similar equipment		
	IEC 5502	Information technology equipment. Radio disturbance characteristics		

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	TECHNICAL REQUIREMENTS OF LED STREETLIGHTING LUMINAIRES • The luminaires shall be delivered completely assembled with housing, driver, LED module and lens. • Luminaires shall be Class 1 of IEC 60598-1 and be of the totally enclosed type. • The luminaire output shall be provided as output flux at Tq of 25 ^{0}C, Nominal flux will not be considered. • The colour temperature of the luminaires shall be neutral white, 4 000K. No other colour temperature will be accepted. • The colour rendering index of the luminaires shall be 70 (minimum). • The performance of LED luminaires shall be verified by designing the lighting of the appropriate road as per SANS ARP 035 on request. • The luminaires shall deliver 90% of the initial lumens, when installed for 100 000 hours with a 10% maximum LED failure rate (L90B10). The bidder shall provide a lumen depreciation graph by means of the IES LM 80-08 data of the LEDs. • The LED light source test data shall provide the expected data for at least 25% of rated LED light source lifetime, i.e.15 000hrs • The following information and conditions shall be met and the manufacturer shall supply test data that includes, but is not limited to, the following: • The LED light source(s) have been tested according to LM-80-08. • The LED drive current specified by the luminaire manufacturer is less than or equal to the drive current specified in the LM-80 test report. • The LED light source(s) manufacturer prescribes/indicates a temperature measurement point (Ts) on the light source(s). • The Ts is accessible to allow temporary attachment of a thermocouple for measurement of in-situ temperature. Access via a temporary hole in the housing, tightly resealed during testing with putty or other flexible sealant is allowable. • For the hottest LED light source in the luminaire, the temperature measured at the Ts is less than or equal to the temperature specified in the LM-80 test report for the corresponding drive current. • Temperature sensors shall be fitted as protection devices to the luminaire, placed directly next to the LEDs. These shall not switch off the luminaire completely. Full details of how the luminaire manages its temperature through the use of sensors and the effect on lumen maintenance shall be supplied. • The luminaire shall be designed in such a manner that there is a thermal separation between the optical and gear compartments. This will allow air to freely flow through and ensure optimal cooling of the luminaire especially during possible daytime maintenance. • Lifespan estimation deterioration curves of LED to be submitted for various design currents, e.g. 350 mA, 500 mA, 700 mA, etc. on request.	

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- The complete assembly and testing of the LED luminaire/s shall be undertaken in South Africa, within an ISO 9001 certified factory.
- Luminaires shall further comply with the following standards:
- IEC 55015 “Limits and methods of measurements of radio disturbance characteristics of electrical lighting and similar equipment”
- IEC 5502 “Information technology equipment. Radio disturbance characteristics.”
- IEC 61000-4-5 “Electromagnetic compatibility (EMC) - Surge immunity test”

IP Rating

The luminaires shall have minimum rating of IP 66 in accordance with SANS 60529 for both the control gear (driver) and optical (LED engine) compartments, when normally mounted as per SANS 475.

Construction of Luminaires

- The housing shall be robustly constructed, weatherproof, hailproof, insectproof, corrosion proof, ultra-violet light resistant and vandal resistant. Luminaires shall be suitable for operation at an ambient temperature, Ta, of 35 ºC. Fixing devices, junctions, lips and the like shall be designed to shed water. Pockets and ledges in which condensation may accumulate shall be avoided.
- The luminaires shall contain a heat sink with no fans, pumps or liquids, and the design of the heat sink shall prevent the accumulation of dirt and nesting of insects or ants, thus ensuring effective heat dissipation. Heat from the LED source should take the shortest path to the exterior by direct conduction or any other reliable form of cooling that will not compromise the useful life of the LEDs.
- Luminaires shall have three separate compartments being: the optical compartment with LED engine, the control gear compartment and the spigot compartment, and shall have a minimum degree of protection of IP66 for the optical and control gear compartments.
- The cooling fins shall be designed in such a manner to prevent the accumulation of dirt, thus ensuring the continuous effective cooling. Additionally, the top surface shall be slightly curved in shape.
- The luminaires shall have die cast aluminium housings and shall be of grade EN1706 AC44300, (or higher) aluminium alloy. Bidders shall submit a metallurgical report from an independent metallurgist confirming the grade of aluminium for all the luminaires offered. The Municipality reserves the right to submit luminaires for metallurgical testing when necessary.
- The luminaires shall be supplied in raw aluminium finish. i.e. The finish shall be unpainted.
- Ferrous components shall be hot dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application.
- Small components (such as toggle clips, bolts, screws, nuts,

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	washers) shall be manufactured of stainless steel (grade 304 or better) • The replacement (upgrading and service) of the LED unit and the driver/power supply shall be possible without removing the whole luminaire but by means of replacing only the optical/gear compartment by means of a hinging mechanism, or other such simple method which does not require tools, to allow integration of future technological development of LEDs and power supply. • 3.3.10 The driver shall be mounted internally and be replaceable with the aid of commonly available hand tools. • 3.3.11 The luminaire housing shall incorporate an IP 68 rated air pressure relief valve to ensure longevity and reliability on the total luminaire IP rating as well as reducing potential condensation on the polycarbonate protector. **Mounting** • Galvanised mild steel supporting spigot to such a degree that deterioration by electrolytic action will not occur. • Spigot entries shall be designed to fit easily over the bracket pipe and shall be truly parallel to the fitting axis and shall comply with Table 1 of SANS 1088:1990 as follows: • For Type 2 luminaires (side entry): Nominal size - 42 mm. • The luminaire shall be secured on its spigot by at least two stainless steel M8 screws as specified in ISO 4762, which are screwed into stainless steel sockets or any other proven method to prevent cathodic corrosion between stainless steel and aluminium. The construction of the housing shall be such that cracking cannot occur during the process of fixing the luminaire to the pole or bracket. The attachment of the luminaire should be designed to withstand wind speeds of up to 150 km/h on the projected surface of the luminaire without due deflection. • The luminaire will be fitted with a spirit level to ensure ease of true horizontal mounting. **Protector** • The photometrical lens, covering each individual LED, shall not be exposed directly to the elements of nature and will have a separate high impact, IK10 rated, clear flat polycarbonate protector covering the complete optical (LED) compartment. • The protector shall form a seal completely preventing the entry of moisture, dust and insects into the optical (LED) compartment. A one-piece gasket of silicon sponge material shall be used for this purpose. Gaskets shall not deteriorate or suffer permanent deformation due to light, heat or compression, to which they will be exposed in practice, during the life of the luminaire. • The gasket shall be fitted into a groove in the housing and shall be seated in a manner ensuring the integrity of the IP66 rating and shall not work loose during maintenance of the luminaire.	

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	Power Supply or Driver Requirements • LED module(s) drivers shall be housed fully within the body of the luminaire and be suitable for operation with the specified rating of luminaire. • The output frequency of the drivers shall be 100 Hz or greater, to avoid visible flicker. • The LED module driver(s) shall be equipped with 1-10V dimming feature for further energy savings if required via a preprogramed step dimming scene if and when required. • The LED module driver(s) shall operate at a power factor of 0,95 or greater, and the total harmonic distortion levels shall be less than 20% so as to not cause interference on the electrical network and shall comply with the limits given in SANS 61000-3-2. • The control gear (or driver) compartment shall be sealed in the same manner as described in items 3.5.2 and 3.5.3. • The control gear (or driver) compartment shall be so designed that there is sufficient space to permit repairs, replacement of components and reassembly without difficultly and without the removal of the luminaire from its mounting. • The power supply or driver shall be able to withstand surges of up to 10kV/10kA by means of an external, inline fused surge protection device. This surge protection device shall be easily replaceable and it shall fail in an open circuit mode to protect the luminaire from further surges. • The lifetime of the power supply (driver) shall be 100 000hrs with 90% survival over the lifetime. • The power supply (driver) shall incorporate a thermal switch to prevent exceeding the case temperature for maximum life time of equipment. **Earthing** • The luminaire shall be earthed in accordance with Clause 13 of the Electrical Machinery Regulations of the OHSACT (Act 85 of 1993). • Metal parts of luminaires which may become live in the event of an insulation fault, which are not accessible when the luminaire is mounted but liable to come into contact with the supporting surface, shall be permanently and reliably connected to an earthing terminal and shall withstand the test specified in IEC 60598-2-3. • Protection against electric shock shall be maintained for all methods and positions of installation in normal use. Protection shall also be maintained after removal of all parts which can be removed by hand. • Earthing terminals shall comply with sub-clause 7.2 of IEC 60598-All parts of an earth terminal shall be made of brass or other corrosion resistant metal and the contact surfaces shall be bare metal and not painted or varnished surfaces. • All earth connections shall be effected by means of suitable lugs appropriately made to avoid all possibility of electrolytic corrosion.	

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- An earth connection shall be provided in all instances, even if the luminaire is fully insulated and even if all conductive parts, which could become live in the event of an insulation fault, are not accessible. This is to facilitate future wiring should the luminaire be replaced by a unit which requires an earth connection.

Wiring

- The internal wiring of the luminaires shall be flexible and suitably insulated to withstand the voltage and the temperature encountered in service. Wiring colours shall be: live-brown (or red), neutral-blue (or black) and earth-green/yellow.
- Wiring to the LED module compartment shall be suitably grommeted, ensuring a perfect seal between compartments and protection of the wiring.
- The supply terminals shall accept 4mm^2 wires and be easily accessible. No part of the cover shall damage the supply wires when closed.
- The electrical power supply shall automatically disconnect when the luminaire is opened, typically through the use of a blade/knife switch connector, allowing safe access to the inner components.

Optics

- Although the LED streetlight luminaire shall be supplied with a specific and stated optic distribution, various different optic distributions shall be available as a standard, at no extra cost. This is to ensure that specific distributions may be considered, per project type, for upgrading of existing installations as well as new installations.

Maximum weight & Aerodynamic resistance of LED streetlight luminaires

Due to most installations being a retrofit of existing infrastructure, a maximum weight & aerodynamic resistance limit will apply for the replacement unit to ensure that historical pole loading is not exceeded. Detail of each is tabled below.

LED STREETLIGHT LUMINAIRE MARKINGS

Each luminaire shall be distinctly marked in clear lettering on the outside of the control gear compartment, with the following information:
Rated wattage of luminaire in accordance with the description specified, e.g. **50 W *LED***.
The name of supplier followed by the luminaire model, e.g. ***SUPPLIER X, LUMINAIRE MODEL NAME***
Each luminaire shall bear the name or trademark of the **manufacturer** and the **date of manufacture**
Luminaires delivered without the specified markings shall be rejected.

LED STREETLIGHT LUMINAIRE PACKAGING

PRINT NAME:			
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SIGNATURE:		DATE:	

	Each luminaire shall be delivered completely assembled ready for use and shall be individually packed in suitable containers such as cardboard boxes. The containers shall be marked with appropriate description and stock code of the luminaire contained within. **LED LUMINAIRE DOCUMENTATION AND TEST REPORT TO BE SUBMITTED WITH THE OFFER** • Full technical and descriptive details, relating to all the items offered in this enquiry shall be submitted so the offer can be fully evaluated. Failure to provide the documents & test reports below may result in the rejection of the Bid: This shall include: • Name of LED luminaire. • Luminaire product sheet stating all relevant information ie, weight, aerodynamic resistance, wattage, output lux, ect. • LM-80-08 test report for the LED's used in the luminaire • Type test according to IEC 60598-1:2004 and IEC 60598-2-3:2003 • IP rating test reports for all items offered in accordance with SANS 60529. • Bidders shall submit a metallurgical report confirming the grade of aluminium of the aluminium housings. • ISO 9001:2015 certificate of the factory producing the luminaires • The test reports shall be issued by SANS or IEC accredited test authority. **LED LUMINAIRE SAMPLES** When samples are requested for evaluation, properly labelled samples (Contract/Enquiry number, the item number and the bidding company name) shall be delivered to (Customer Name) (Customer Name) reserves the right to submit samples to such tests as deemed reasonable and necessary. **GUARANTEE** All luminaires offered shall have a minimum guarantee period of **five years**. If luminaires are found to have failed within this period as a result of poor manufacturing processes and/or poor materials it shall be replaced free of charge by the manufacturer.	

D.11.7 LED FLOODLIGHT LUMINAIRES

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
	SCOPE This specification details the manufacture, testing, supply and delivery of floodlight luminaires, as specified below. The floodlight luminaires shall be suitable for use with light emitting diode (LED) technology.		

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	CIE Publication 27	Photometry of luminaires for street lighting		
	SATS 17576:2014	Light-emitting diode products for interior lighting, streetlighting and floodlighting — Performance requirements		
	IEC 60598-1	Luminaires - Part 1: General requirements and tests		
	IEC 60598-2-5	Luminaires - Part 2: Particular requirements - Section 5: Floodlights		
	SANS 475	Luminaires for interior lighting, streetlighting and floodlighting Performance requirements		
	SANS 529	Heat-resisting wiring cables		
	SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles — Specifications and test methods.		
	SANS 1088	Luminaire entries and spigots		
	SANS 60529	Degrees of protection provided by enclosures (IP Code)		
	ISO 4762	Hexagon socket head cap screws		
	SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 3: PVC Distribution cables		
	SANS 1574	Electric flexible cores, cords and cables with solid extruded dielectric insulation Part 3: PVC-insulated cores and cables		
	SANS ARP 035	Guidelines for the installation and maintenance of street lighting		
	OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations		
	SANS 61000-3-2	Electromagnetic compatibility (EMC) Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)		
	IEC 61000-4-5	Electromagnetic compatibility (EMC) - Surge immunity test		
	IEC 55015	Limits and methods of measurements of radio disturbance characteristics of electrical lighting and similar equipment		
	IEC 5502	Information technology equipment. Radio disturbance characteristics		

TECHNICAL REQUIREMENTS OF LED FLOODLIGHTING LUMINAIRES

General

- The luminaires shall be delivered completely assembled with housing, driver, LED module and lens.
- Luminaires shall be Class 1 of IEC 60598-1 and be of the totally enclosed type.
- The luminaire output shall be provided as output flux at Tq of 25 ^{0}C, Nominal flux will not be considered.
- The colour temperature of the luminaires shall be neutral white, 4 000K or 5700K where stated. No other colour temperature will be accepted.
- The colour rendering index of the luminaires shall be 70 (minimum).

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- The performance of LED luminaires shall be verified by designing the lighting of the appropriate road as per SANS ARP 035 on request.
- The luminaires shall deliver 90% of the initial lumens, when installed for 100 000 hours with a 10% maximum LED failure rate (L90B10) unless stated otherwise elsewhere. The bidder shall provide a lumen depreciation graph by means of the IES LM 80-08 data of the LEDs.
- The LED light source test data shall provide the expected data for at least 25% of rated LED light source lifetime, i.e.15 000hrs
- The following information and conditions shall be met, and the manufacturer shall supply test data that includes, but is not limited to, the following:
    - The LED light source(s) have been tested according to LM-80-08.
    - The LED drive current specified by the luminaire manufacturer is less than or equal to the drive current specified in the LM-80 test report.
    - The LED light source(s) manufacturer prescribes/indicates a temperature measurement point (Ts) on the light source(s).
    - The Ts is accessible to allow temporary attachment of a thermocouple for measurement of in-situ temperature. Access via a temporary hole in the housing, tightly resealed during testing with putty or other flexible sealant is allowable.
    - For the hottest LED light source in the luminaire, the temperature measured at the Ts is less than or equal to the temperature specified in the LM-80 test report for the corresponding drive current.
    - Temperature sensors shall be fitted as protection devices to the luminaire, placed directly next to the LEDs. These shall not switch off the luminaire completely. Full details of how the luminaire manages its temperature through the use of sensors and the effect on lumen maintenance shall be supplied.
    - The luminaire shall be designed in such a manner that there is a thermal separation between the optical and gear compartments. This will allow air to freely flow through and ensure optimal cooling of the luminaire especially during possible daytime maintenance.
    - Lifespan estimation deterioration curves of LED to be submitted for various design currents, e.g. 350 mA, 500 mA, 700 mA, etc. on request.
    - The complete assembly and testing of the LED luminaire/s shall be undertaken in South Africa, within an ISO 9001 certified factory.
    - Luminaires shall further comply with the following standards:
    - IEC 55015 “Limits and methods of measurements of radio disturbance characteristics of electrical lighting and similar equipment”
    - IEC 5502 “Information technology equipment. Radio disturbance characteristics.”
    - IEC 61000-4-5 “Electromagnetic compatibility (EMC) - Surge immunity test”

IP Rating

The luminaires shall have minimum rating of IP 66 in accordance with SANS 60529 for both the control gear (driver) and optical (LED engine) compartments, when normally mounted as per SANS 475.

Construction of Luminaires

- The housing shall be robustly constructed, weatherproof, hailproof, insectproof, corrosion proof, ultra-violet light resistant and vandal resistant. Luminaires shall be suitable for operation at an ambient temperature, Ta, of 35 ^{o}C. Fixing devices, junctions, lips and the like shall be designed to shed water. Pockets and ledges in which condensation may accumulate shall be avoided.

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- The luminaires shall contain a heat sink with no fans, pumps or liquids, and the design of the heat sink shall prevent the accumulation of dirt and nesting of insects or ants, thus ensuring effective heat dissipation. Heat from the LED source should take the shortest path to the exterior by direct conduction or any other reliable form of cooling that will not compromise the useful life of the LEDs.
- Luminaires shall have a minimum degree of protection of IP66 for the optical and control gear compartments.
- The cooling fins shall be designed in such a manner to prevent the accumulation of dirt, thus ensuring the continuous effective cooling.
- The luminaires shall have die cast aluminium housings and shall be of grade EN1706 AC44300, (or higher) aluminium alloy. Bidders shall submit a metallurgical report from an independent metallurgist confirming the grade of aluminium for all the luminaires offered. The Municipality reserves the right to submit luminaires for metallurgical testing when necessary.
- The luminaires shall be supplied in raw aluminium finish. i.e. The finish shall be unpainted.
- Ferrous components shall be hot-dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application.
- Small components (such as toggle clips, bolts, screws, nuts, washers) shall be manufactured of stainless steel (grade 304 or better)
- The driver shall be mounted internally and be replaceable with the aid of commonly available hand tools.
- The luminaire housing shall incorporate an IP 68 rated air pressure relief valve to ensure longevity and reliability on the total luminaire IP rating as well as reducing potential condensation on the protector.

Mounting

The stirrup shall be manufactured from a minimum 6mm x 60mm hot-dipped galvanized steel. A minimum of three pre-drilled mounting holes shall be provided in the stirrup.

Protector

- The photometrical lens, covering each individual LED, shall not be exposed directly to the elements of nature and will have a separate high impact, IK10 rated, clear polycarbonate protector covering the complete optical (LED) compartment.
- The protector shall form a seal completely preventing the entry of moisture, dust and insects into the optical (LED) compartment. A one-piece gasket of silicon sponge material shall be used for this purpose. Gaskets shall not deteriorate or suffer permanent deformation due to light, heat or compression, to which they will be exposed in practice, during the life of the luminaire.
- The gasket shall be fitted into a groove in the housing and shall be seated in a manner ensuring the integrity of the IP66 rating and shall not work loose during maintenance of the luminaire.

Power Supply or Driver Requirements

- LED module(s) drivers shall be housed fully within the gear compartment of the luminaire and be suitable for operation with the specified rating of luminaire.
- The output frequency of the drivers shall be 100 Hz or greater, to avoid visible flicker.
- The LED module driver(s) shall operate at a power factor of 0,95 or greater, and the total harmonic distortion levels shall be less than 20% so as to not cause interference on the electrical network and shall comply with the limits given in SANS 61000-3-2.

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- The control gear (or driver) compartment shall be sealed in the same manner as described in items 3.5.2 and 3.5.3.
- The control gear (or driver) compartment shall be so designed that there is sufficient space to permit repairs, replacement of components and reassembly without difficultly and without the removal of the luminaire from its mounting.
- The power supply or driver shall be able to withstand surges of up to 10kV/10kA by means of an external, inline fused surge protection device. This surge protection device shall be easily replaceable and it shall fail in an open circuit mode to protect the luminaire from further surges.
- The lifetime of the power supply (driver) shall be 100 000hrs with 90% survival over the lifetime.
- The power supply (driver) shall incorporate a thermal switch to prevent exceeding the case temperature for maximum life time of equipment .

Earthing

- The luminaire shall be earthed in accordance with Clause 13 of the Electrical Machinery Regulations of the OHSACT (Act 85 of 1993).
- Metal parts of luminaires which may become live in the event of an insulation fault, which are not accessible when the luminaire is mounted but liable to come into contact with the supporting surface, shall be permanently and reliably connected to an earthing terminal and shall withstand the test specified in IEC 60598-2-3.
- Protection against electric shock shall be maintained for all methods and positions of installation in normal use. Protection shall also be maintained after removal of all parts which can be removed by hand.
- Earthing terminals shall comply with sub-clause 7.2 of IEC 60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal and the contact surfaces shall be bare metal and not painted or varnished surfaces.
- All earth connections shall be affected by means of suitable lugs appropriately made to avoid all possibility of electrolytic corrosion.
- An earth connection shall be provided in all instances, even if the luminaire is fully insulated and even if all conductive parts, which could become live in the event of an insulation fault, are not accessible. This is to facilitate future wiring should the luminaire be replaced by a unit which requires an earth connection .

Wiring

- The internal wiring of the luminaires shall be flexible and suitably insulated to withstand the voltage and the temperature encountered in service. Wiring colours shall be: live-brown (or red), neutral-blue (or black) and earth-green/yellow.
- Wiring to the LED module compartment shall be suitably grommeted, ensuring a perfect seal between compartments and protection of the wiring.
- The supply terminals shall accept 4mm^2 wires and be easily accessible. No part of the cover shall damage the supply wires when closed.

Optics

- Although the LED floodlight luminaire shall be supplied with a specific and stated optic distribution, various different optic distributions shall be available as a standard, at no extra cost. This is to ensure that specific distributions may be considered, per project type, for upgrading of existing installations as well as new installations.

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Maximum weight & Aerodynamic resistance of LED floodlight luminaires:

- Due to most installations being a retrofit of existing infrastructure, a maximum weight & aerodynamic resistance limit will apply for the replacement unit to ensure that historical pole loading is not exceeded.
- Detail of each is tabled below.

LED FLOODLIGHT LUMINAIRE MARKINGS

Each luminaire shall be distinctly marked in clear lettering on the outside of the control gear compartment, with the following information:
Rated wattage of luminaire in accordance with the description specified, e.g. **50 W *LED***;
The name of supplier followed by the luminaire model, e.g. ***SUPPLIER X, LUMINAIRE MODEL NAME***
Each luminaire shall bear the name or trademark of the **manufacturer** and the **date of manufacture**
Luminaires delivered without the specified markings shall be rejected.

LED FLOODLIGHT LUMINAIRE PACKAGING

Each luminaire shall be delivered completely assembled ready for use and shall be individually packed in suitable containers such as cardboard boxes. The containers shall be marked with appropriate description and stock code of the luminaire contained within.

LED LUMINAIRE DOCUMENTATION AND TEST REPORT TO BE SUBMITTED WITH THE OFFER

Full technical and descriptive details, relating to all the items offered in this enquiry shall be submitted so the offer can be fully evaluated. Failure to provide the documents & test reports below may result in the rejection of the Bid: This shall include:

Name of LED luminaire.
Luminaire product sheet stating all relevant information ie, weight, aerodynamic resistance, wattage, output lux, ect.
LM-80-08 test report for the LED's used in the luminaire
Type test according to IEC 60598-1:2004 and IEC 60598-2-5:2003
IP rating test reports for all items offered in accordance with SANS 60529.
Bidders shall submit a metallurgical report confirming the grade of aluminium of the aluminium housings.
ISO 9001:2015 certificate of the factory producing the luminaires.
The test reports shall be issued by SANS or IEC accredited test authority.

LED LUMINAIRE SAMPLES

When samples are requested for evaluation, properly labelled samples (Contract/Enquiry number, the item number and the bidding company name) shall be delivered to (Customer Name)
(Customer Name) reserves the right to submit samples to such tests as deemed reasonable and necessary.

GUARANTEE

All luminaires offered shall have a minimum guarantee period of **five years**. If luminaires are found to have failed within this period as a result of poor manufacturing processes and/or poor materials it shall be replaced free of charge by the manufacturer.

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SECTION E: DISTRIBUTION & METERING KIOSKS, POLE MOUNTED & SURFACE MOUNTED DISTRIBUTION BOXES AND ACCESSORIES

E1. METERING AND DISTRIBUTION KIOSK

No	Description			
E1.1. a	**GENERAL: POLYETHYLENE KIOSK**			
i. ii.	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully Responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design. The specification covers the requirements for meter kiosks and distribution kiosks. Meter kiosks and distribution kiosks shall be manufactured in accordance to NRS 056 part 1. The specific Requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with NRS 056 occur, this specification shall take precedence.			
E1.1. b	**COMPLIANCE WITH STANDARD SPECIFICATIONS**		**YES**	**NO**
i.	Service Distribution Boxes –Meter Kiosks and Distribution Kiosks –Part 1: Low-voltage non-steel meter kiosks for use in underground networks	NRS 056 -1:2005		
ii.	Low-voltage switchgear and control gear assembles (distribution boards) with a rated short-circuit withstand strength up to and including 10kA	SANS 1765:2003		
E1.1.c	**CONSTRUCTIONAL REQUIREMENTS**		**YES**	**NO**
i.	**Material**	Ultra-violet stabilized Linear Low Density Polyethylene (LLDPE) using rotational moulding		
ii.	**Construction**	Design of the unit to be such that all external surfaces are —roundedll to pre be rigidly moulded and have high impact resistance and dielectric strength. LLDPE used must be chemically resistant and resistant to deterioration from prolonged contact with soil and/or moisture. Must be resistant to abrasion and heat and specifically treated with stabilizing additives to provide enhanced UV breakdown resistance. Materials used must be free from blow holes and defects.		
iii.	**Mounting frame**	Root and frame must be moulded as one self-supporting polyethylene equipment mounting panel, so as to decrease to likelihood of condensation. The frame must contain a 19mm wooden block board inserted the whole width and length of the frame.		
iv	**Colour**	Dark Grey/Avocado Green		
v.	**Roof**	pitched roof only		

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vi.	**Doors & Hinges**	Must be manufactured from polyethylene. Must have a 40 x 40mm internal stiffener. Danger labels on the doors must be of the mould-in graphic type. Open at least 130 degrees with hinges being an internal part of the moulding process. Piano hinges not acceptable. All kiosks 9-Way and bigger shall be fitted with at least 3 door hinges. Doors must be removable for ease of installation, maintenance, or replacement. Stainless steel standard pad lockable facilities to be provided for both doors. A polyethylene legend holder with card must be riveted to the inside of the consumer door. All rivets, bolts, nuts, washers and set screws must be stainless steel		
vii.	**Cable Termination**	Galvanised heavy duty Unistrat 40 x 20mm to be installed on both the incomer and consumer side of the kiosk, for cable termination		
viii.	**Busbars**	Must be fitted with high conductivity tinned copper phase, earth, and neutral busbars (predrilled prior to tinning or galvanising) Phase busbars must be capable of accommodating 3 x 300mm cables (per phase) and must be heat shrink colour coded red, white, and blue and vertical mounted on polyethylene busbar holders. A polyethylene busbar shroud, marked with a Mould-in graphics danger, as well as a trifoliate danger live busbar label, which is enclosed on top and sides for safety, to be fitted over the phase busbars. Must be fitted with close tolerance stainless steel bolts, nuts, and washers at all connecting points Neutral and earth bars are to be fitted to the consumer side of the kiosk and must extend through to the incoming side (no interconnection cables will be allowed) Both these bars to be connected by means of 70mm wire (green), bolted to Unistrat		

E1.1.d	**NUMBERS AND TYPE OF METERS IN DOUBLE DOOR KIOSK**			
	1PH KWH	3PH KWH	1PH SPLIT	3PH SPLIT
4Way	4	2	8	2
6Way	6	2	8	2
9Way	9	4	14	4
12 Way	12	6	14	4

E1.1.e	**TEST**	**Yes**	**No**
i,	Test reports for type and routine tests as per NRS 056- part 1 to be provided		

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ii,	Test to be done by an accredited laboratory		
E1.1.f	**MARKING**	**Yes**	**No**
i,	Marking as per NRS 056 part 1:2005 to be provided		
E1.1.g	**GENERAL**	**Yes**	**No**
i,	Prices to include supply of goods and delivery to the Municipal Store in Stellenbosch. Equipment shall only be newly manufactured. No second hand or refurbished equipment. A sample of each standard size shall be supplied if requested. All kiosks to be equipped with Surge Arrestors as specified		
E1.1.h	**POLYETHYLENE DISTRIBUTION STUBBY SPECIFICATIONS**		
i,	Stubby to be manufactured out of polyethylene type LLDPE		
ii,	Stubby to consist of top measuring 700(h) x 340(w) x 220(d) and a separate root base measuring 410(h) x 400(w) x 430(d) Root to have mounting flange all round		
iii,	Top to be secured to root through internal frame with polyethylene locking pin		
iv,	Stubby ‘’**MUST”** — have removable internal **polyethylene back board**		
v,	Backboard to be fitted with unistrut- two rows of din rail including separate earth & neutral bar (32mm x 6mm) complete with bolts, washers & nuts-Equipped for at least 2x95mm and 12 x 16mm crimping lugs 70mm Insulated Earth Link between neutral and earthbar Busbars predrilled prior to tinning or galvanising		
vi,	Full set of vertical busbars and must be fitted with high conductivity tinned copper phase, earth and neutral busbars (predrilled prior to tinning or galvanising) Phase busbars must be capable of accommodating 2 x 120mm cables (per phase) and must be heat shrink colour coded red, white and blue and vertical mounted on polyethylene busbar holders (predrilled prior to tinning or galvanising)		
vii,	Combination busbars circuit breaker shroud around internal back board		
x,	Internal back board must be able to accommodate 12 x Curve 1 breakers and surge arrestors ad specified		

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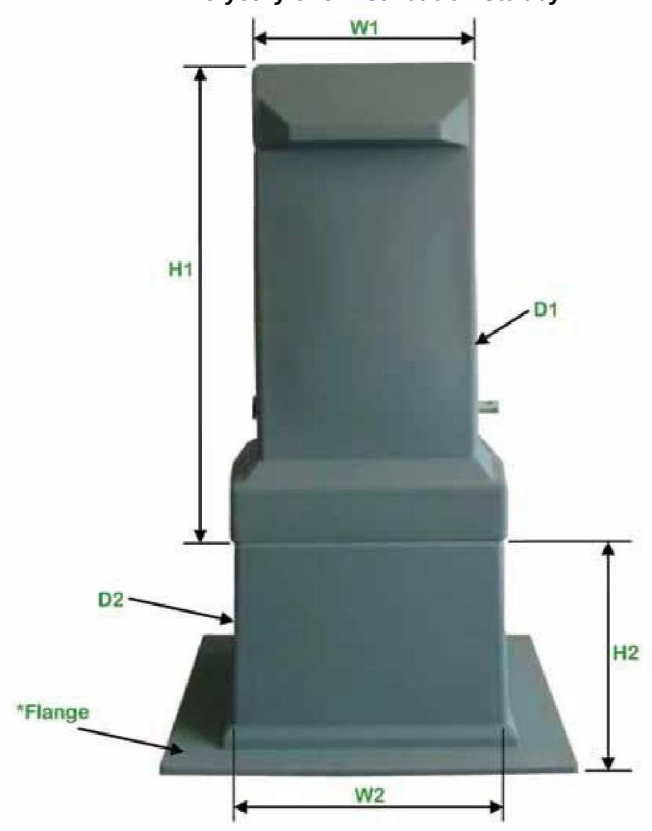
Polyethylene Distribution stubby



E1.2 LOW VOLTAGE STEEL STUBBY"S (3CR12)

E1.2.1 SCOPE

This specification sets out requirements for low-voltage (LV) steel meter kiosks for use in underground networks.

E1.2.1.1 NORMATIVE REFERENCES

IEC 60715: 1981, *Dimensions of low voltage switchgear and control gear. Standardized mounting on rails for mechanical support of electrical devices in switchgear and control gear installations. (inc Admit 1)*
SANS 1091:1975, *National Color Standards for paint.*
SANS 1507-1: 2002, *Electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 000 V) — Part 1: General.*
SANS 1186-1: 2003, *Symbolic safety signs — Part 1: Standard signs and general requirements*
DIN 17441, *Stainless steel: technical delivery conditions for cold rolled strip and slit strip and for plate and sheet cut there from.*
BS 5685-1: 1979*: Electricity meters — Part 1: Specification for class 0,5, 1 and 2 single-phase and poly-phase, single rate and multi-rate watt-hour meters*

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E1.2.1.2 TERMS AND DEFINITIONS

a. **Circuit breaker Compartment:**
That part of a kiosk where the circuit breakers are installed and connected to the busbars.

b. **Busbar Compartment:**
That part of a kiosk where the network cables are terminated and connected to busbars.

c. **Metering compartment:**
That part of a kiosk where the meters are installed, and service cables terminated and connected to meters.

E1.2.2 REQUIREMENTS

E1.2.2.1	KIOSK REQUIREMENTS	YES	NO
a.	The entire kiosk shall be manufactured from a minimum of 2 mm thick 3CR12 steel		
b.	The completed kiosk shall have an IP rating of 3 for protection against touching live parts, and it shall have an IP rating of 3 for protection against ingress of liquids. [IP33]		
c.	The kiosk shall be suitable for ground mounting.		
d.	The final color of the box shall be in accordance with SANS 1091.		

E1.2.2.2	KIOSK CONSTRUCTION	YES	NO
a.	The kiosk shall include two sliding doors for access to busbar and metering compartment and a top hinge lid for access to the circuit breaker compartment.		
b.	The lid shall be equipped with a drop-key lock.		
c.	The kiosk shall be constructed from pickled, passivated and powder coated 3CR12. Both the exterior and interior of the kiosk shall be powder coated		
d.	Ventilation ports on both sides, spider-proof.		
e.	Fabrication of 3CR12 steel kiosks		
f.	All cutting, forming, forging, machining, welding, fastening, annealing, stress relieving, post weld cleaning and coating shall comply with the internal standards of the manufacturer of 3CR12 steel.		
g.	In all cutting operations, whether thermal or mechanical, carried out on 3CR12 steel, no contamination by ferrous (iron or steel) material or particles shall take place. Sharp or rough edges shall be removed by manual grinding or filing.		
E1.2.2.3	**WELDING**	**YES**	**NO**
a.	For Manual Metal Arc (MMA) welding type 309L electrodes are recommended for welding 3CR12 steel, although E308L and E316L may also be used.		
b.	For Tungsten Inert Gas (TIG), Metal Inert Gas (MIG) and Plasma arc welding (PAW) the recommended welding consumables are AWS A5.9 ER309L, ER308L or ER316L.		
c.	When welding stainless steel studs, bolts, or nuts onto 3CR12 steel the weld consumable shall be the AWS class 309L to avoid excessive weld metal dilution.		
d.	Where the manufacturer is using stud welding onto 3CR12 steel, 304L stainless steel studs shall be used.		

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e.	Spot welding (resistance welding) shall only be used on parts of the kiosk that are not directly in contact with the outside atmosphere.		

E1.2.2.4	**POST-WELD CLEANING (PICKLING AND PASSIVATION)**	**YES**	**NO**
a.	To prevent corrosion at the welded areas it is necessary to remove all traces of discoloration and scale from the welded areas. This can be done chemically or mechanically and afterwards the kiosk shall be passivated.		
b.	Mechanical cleaning may be done by wire brushing, grinding, using abrasive power tool pads or abrasive blast cleaning. A stainless-steel wire brush shall be used for wire brushing and it shall be dedicated for use with 3CR12 steel. Only dedicated grinding discs based on alumina shall be used when grinding 3CR12 steel. The abrasive used for abrasive blast cleaning shall be stainless steel shot, copper slag, glass beads or alumina, totally free of metallic iron, iron oxides or chlorides		
c.	Chemical cleaning or pickling of 3CR12 steel shall be carried out using formulations based on Nitric acid (HNO3) and Hydrofluoric acid (HF) designed specifically, for 3CR12 steel. Dipping is the preferred method for applying the chemicals. Pickling formulations are aggressive towards 3CR12 steel and pickling shall be supervised to ensure that exposure periods are no longer than the minimum required removing discoloration. Thorough washing with copious quantities of clean cold water are required after pickling to remove all traces of the acids used.		
d.	Passivation of 3CR12 steel shall be carried out within as short a period after post-weld cleaning as possible. A solution made up of 10 % to 20 % HNO3 with the balance H2O is suitable for passivating 3CR12 steel. Dipping is the		

e.	The kiosk shall be degreased prior to pickling and passivation.		
E1.2.2.5	**POWDER COATING**	**YES**	**NO**
a.	The kiosks shall be powder coated with avocado colored polyester powder (SANS color code C12) and the thickness shall be between 60 µm and 80 µm.		
b.	Before powder coating can take place, it is very important to ensure that there is no oil present on the kiosk. The kiosk shall be degreased before powder coating.		

E1.2.2.6	**SHIPPING**	**YES**	**NO**
a.	Kiosks shall be wrapped in bubble wrapping or cardboard before transport to stores. Mounting nuts and setscrews shall be suitably protected to protect them from damage during transport.		

E1.2.2.7	**METER KIOSK ELECTRICAL EQUIPMENT**	**YES**	**NO**
E1.2.2.8	**WIRING**		
a.	The kiosk shall be supplied with a 35 mm2 bare stranded and annealed copper connection between the neutral bar and the earth bar.		
b.	The kiosk shall be supplied with all busbars and insulators fitted		
c.	In the LV feeder compartment, there shall be 3 LV phase busbars and a neutral busbar.		
d.	The phase and neutral busbars shall be constructed from 6 mm thick copper, rating 500 amps.		

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e.	The neutral busbar shall be insulated from earth in the same manner as the phase busbars.		
f.	The busbars shall come fitted with two M10 x 30 mm setscrew, complete with 2 stainless steel washers, a stainless-steel spring washer and a stainless steel nut, in each predrilled hole (except for the holes used to mount the busbars onto the insulators).		
g.	The LV insulators used shall be colored to indicate the phase of each busbar. From top to bottom or from left to right, the phase order of the busbars shall be red, yellow, blue and black.		
h.	The minimum diameter of the LV insulators used shall be 40 mm. The insulators shall have M8 studs on either end. The studs shall project a minimum of 30 mm from the ends of the insulators. The insulators shall have a cylindrical shape (without sheds). The minimum diameter of the flat circular surface where the insulator makes contact with the frame shall be 25 mm. The insulators shall be a minimum of 40 mm long (not including the studs).		
i.	It shall not be possible to make inadvertent contact with the busbars once the kiosk door has been opened. A removable cover shall be provided in order to gain access to the busbars		
j.	The continuous current carrying capacity of the busbars shall be as specified in schedule A. The busbar temperature under these continuous operating conditions shall not exceed 70 ºC.		
k.	All wiring connections shall be made using form bent phase colored 16 mm2 PVC insulated copper conductors.		
l.	The kiosk shall be supplied with the conductors lugged and connected to the correct busbars. The ends of the conductors that are intended for connection to equipment in the metering compartment shall not be stripped.		
E1.2.2.9	**CIRCUIT-BREAKER MOUNTING**	**YES**	**NO**
a.	The kiosk shall be designed to house mini rail mounted circuit-breakers		
b.	The mini rails shall be supplied and installed by the manufacturer.		
c.	Circuit-breakers (12 x 80A x Cores 1) shall be installed and connected to busbars		
E1.2.2.10	**METER MOUNTING**	**YES**	**NO**
a.	The kiosk shall be designed to house 2 rows of 6 split kWh meters for the customers supplied from the kiosk.		
E1.2.2.11	**CABLE CLAMPING**	**YES**	**NO**
a.	The cables shall be clamped onto a K-clamp bracket installed below the mounting panel.		
b.	The kiosk shall be designed to house 3 x 95mm x 4-core feeder cables and 12 x 16mm x 4-core consumer cables.		
E1.2.2.12	**MARKING, LABELLING AND PACKAGING**	**YES**	**NO**
i	Notices shall be provided as required by the Occupational Health and Safety Act. All notices shall be secured to the kiosks using aircraft rivets.		
ii	The following information shall appear in legible and indelible marking as follows:		
	a) The manufacturer's name or trademark; b) A danger sign of minimum size 100 mm x 60 mm that forms an integral		

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	part of the housing and/or all doors. The sign shall be as specified in table 1, WW7 of SANS 1186-1; and c) Appropriate SANS mark(s) of approved performance.		
ii	A label showing the name of the manufacturer and the date of manufacture shall be placed on the inside of the kiosk door.		
iv	A —Danger‖ electrical warning -sign1, shall be secured to the removable busbar cover.		
E1.2.2.13	**SAMPLES**	**YES**	**NO**
a.	A sample of the kiosk shall be provided for evaluation purposes		
b.	The manufacturer's name or trademark;		
E1.2.2.14	**GENERAL**	**YES**	**NO**
a.	All kiosks to be equipped with Surge Arrestors as specified		

E1.3. LOW VOLTAGE VANDAL PROOF METERING KIOSKS

No.	**Description**		
E1.3.1	**SPECIFICATION FOR LOW VOLTAGE METERING ENCLOSURES**	**YES**	**NO**
a.	Tamper proof enclosures shall be designed to host split prepayment meters or credit meters as requested. Kiosks will be called 6-way, 12-way, 18 way, or 24 way.		
b.	Meters currently in use: Cashpower 2000, Cashpower Gemini Split Meter, Cashpower Gemini PLC, Cashpower Power –Rail, Conlog Din Rail BEC 44 series, Landis + Gyr Electronic credit meter. Itron Din Rail PLC meters		
c.	Enclosures shall be prewired for a specific required meter.		
d.	Enclosures shall be fitted with the necessary electronics as specified in clause 37. and will form part of unit prize		
e.	Enclosures shall be divided in the inside into two compartments by means of 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.		
f.	Concrete plinths will be dealt with separately from the kiosks in the same tender, but it is expected of the successful bidder to supply both the kiosk and plinth. In the case where no offers are made on the plinth the bidder will be disqualified.		
g.	All kiosks will be equipped with Surge Arrestors as specified in section 4.6		

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E1.3.2 ENCLOSURE SHALL BE PRE-WIRED AS FOLLOWS:

E1.3.2.1	**6-WAY ENCLOSURE**		
E1.3.2.2	**METERING COMPARTMENT:**	**Yes**	**No**
a,	Supply and fitted with the correct amount of 60A or 80A single pole (6kA) Curve 1 circuit breakers.		
b,	Circuit breakers will be separately supplied from the bus bar side with colour coded insulated copper tails (Red, White, and Blue). Copper tails shall be 16mm2 minimum.		
c,	Phase balancing: 2 x Red, 2 x White, 2 x Blue		
d,	16mm colour coded Insulated Copper tails to be supplied from the circuit breaker to each meter. The tails must be so arranged to enable a person installing the required meter for the enclosure just to connect the meter with the tails.		
e,	16mm2 black Insulated copper tails to be supplied from the neutral bus bar to each meter. The tails must be so arranged to enable a person installing the required meter for the enclosure just to connect the meter with the tails. Each meter shall have its own neutral tail/s.		
f,	Provision shall be made in the enclosure for a suitable cable clamp unistrut for all cables to be mechanically secured and for the earthing of the cable armouring. K-type clamps will be accepted.		
E1.3.2.3	**BUS BAR COMPARTMENT**	**Yes**	**NO**
a,	Supply and fit with a 250A (15kA) main isolator Fitted with 4 x 25mm x 6mm copper bus bars secured on insulators for 3 x phases and neutral.		
b,	Fitted with 1 x 25mm x 6mm copper bus bar secured directly on the steel structure as the earth bar.		
c,	Neutral and earth bus bar to be bonded with each other with a bare 50mm copper conductor.		
d,	Each bus bar shall have enough drilled holes to avoid two connections per bolt.		
e,	Phase bus bars shall be supplied from the isolator with 95mm colour coded (Red, White, Blue) insulated copper tails (when the request is to supply enclosure fitted with an isolator)		
f,	Provision shall be made in the enclosure for a suitable cable clamp unistrut for all cables to be mechanically secured and for the earthing of the cable armouring. K-type clamps will be accepted.		
g,	Copper tinned lugs of the correct size will be crimped onto the copper conductors by a proper crimper designed for that purpose		
h,	All copper conductors will be secured onto the bus bars by using the correct size bolt, nut, flat and spring washers.		
E1.3.3	**12-WAY ENCLOSURES**		
E1.3.3.1	**METERING COMPARTMENT:**	**Yes**	**No**
a.	Supply and fitted with the correct amount of 60A or 80A single pole (6kA) Curve 1 circuit breakers		
b.	Circuit breakers will be separately supplied from the bus bar side with colour coded insulated copper tails (Red, White, Blue). Copper tails shall be 16mm2 minimum.		

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c	Phase balancing: 4 x Red, 4 x White, 4 x Blue		
d.	16mm colour coded Insulated Copper tails to be supplied from the circuit breaker to each meter. The tails must be so arranged to enable a person installing the required meter for the enclosure just to connect the meter with the tails.		
e.	16mm black Insulated copper tails to be supplied from the neutral bus bar to each meter. The tails must be so arranged to enable a person installing the required meter for the enclosure just to connect the meter with the tails. Each meter shall have its own neutral tail/s.		
f	Provision shall be made in the enclosure for a suitable cable clamp Unistrut for all cables to be mechanically secured and for the earthing of the cable armouring. K-type clamps will be accepted.		
E1.3.3.2	**BUSBAR COMPARTMENT**	**Yes**	**No**
a.	Supply and fit with a 250A (15kA) main isolator fitted with 4 x 30mm x 6mm copper bus bars secured on insulators for 3 x phases and neutral.		
b.	Fitted with 1 x 30mm x 6mm copper bus bar secured directly on the steel structure as the earth bar.		
c.	Neutral and earth bus bar to be bonded with each other with a bare 70mm copper conductor.		
d.	Each bus bar shall have enough drilled holes to avoid two connections per bolt.		
e.	Phase bus bars shall be supplied from the isolator with 150mm colour coded (Red, White, Blue) insulated copper tails (when the request is to supply enclosure fitted with an isolator).		
f.	Provision shall be made in the enclosure for a suitable cable clamp unistrut for all cables to be mechanically secured and for the earthing of the cable armouring. K-type clamps will be accepted		
g.	Copper tinned lugs of the correct size will be crimped onto the copper conductors by a proper crimper designed for that purpose.		
h.	All copper conductors will be secured onto the bus bars by using the correct size bolt, nut, flat and spring washers.		

E1.3.4	**18-WAY ENCLOSURES**	**Yes**	**No**
E1.3.4.1	**METERING COMPARTMENT**		
a.	Supply and fitted with the correct amount of 60A or 80A single pole (6kA) Curve 1 circuit breakers.		
b.	Circuit breakers will be separately supplied from the bus bar side with colour coded insulated copper tails (Red, White, Blue). Copper tails shall be 16mm2 minimum.		
c.	Phase balancing: 6 x Red, 6 x White, 6 x Blue		
d.	16mm colour coded Insulated Copper tails to be supplied from the circuit breaker to each meter. The tails must be so arranged to enable a person installing the required meter for the enclosure just to connect the meter with the tails.		

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e.	16mm black Insulated copper tails to be supplied from the neutral bus bar to each meter. The tails must be so arranged to enable a person installing the required meter for the enclosure just to connect the meter with the tails. Each meter shall have its own neutral tail/s.		
f.	Provision shall be made in the enclosure for a suitable cable clamp Unistrut.		
E1.3.4.2	**BUSBAR COMPARTMENT**	**Yes**	**No**
a.	Supply and fit with a 250A (15kA) main isolator fitted with 4 x 35mm x 6mm copper bus bars secured on insulators for 3 x phases and neutral.		
b.	Fitted with 1 x 35mm x 6mm copper bus bar secured directly on the steel		
E1.3.4.3	**SURFACE MOUNTED VANDALPROOF KIOSK**	**YES**	**NO**
E1.3.4.3.1	**9 WAYS KIOSK**		
a	Kiosk to be fitted with the correct amount of 60A or 80A single pole (6kA) curve 1 circuit breaker.		
b	Kiosk must be supplied with earth and neutral bars.		
c	The kiosk shall be supplied with all busbars and insulator fitted		
d	The kiosk is to be mounted vertically on a wall.		
e	The degree of protection of the enclosure must be IP45 when the door is securely closed and sealed.		
f	The kiosk must have a metal back plate where the DIN rail to secure meters and miniature circuit breaker will be installed.		
g	DIN rail to install meters must be supplied with the kiosk.		
h	Kiosk must have to two cable entries and up to 12 exit knockouts all the bottom of the kiosk. The knockouts must be constructed in a way that prevents unauthorized opening.		
i	The kiosk must be a robust kiosk which provides physical protection because of the design and the material used but must also function as an information system via a GRPS network.		
j	The kiosk must be designed in such a way that the material thickness will prevent any attempt at physical destruction whether it is by mechanical or abrasive means, with a minimum of 2mm thickness.		
k	The apertures, doors and hinges must be located internally as to prevent unauthorized access into the kiosk.		
l	Kiosk should be supplied with the electronic equipment that makes it possible to monitor the status of kiosk on software installed in a remote computer. (see item 4.5 for requirements of the electronic equipment and software)		
m	The kiosk must have a SABS approval mark for low voltage assemblies.		
n	The enclosure must be made of stainless steel or 3CR12 steel and must be corrosion resistant.		
o	The kiosk must be suitable to operate in temperature of +45C and – 10C		
E1.3.5	**POLE MOUNTED VANDAL PROOF KIOSK**	**Yes**	**No**
E1.3.5.1	**9 WAY KIOSK**		
a	Kiosk to be fitted with the correct amount of 60A or 80A single pole (6kA) curve 1 circuit breaker		
b	Kiosk shall be fitted with brackets that makes it possible for mounting on a pole		
c	The kiosk shall be supplied with all busbars and insulator fitted		
d	Kiosk must be supplied with earth and neutral bars		
e	The kiosk is to be mounted vertically on a wall		

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f	The degree of protection of the enclosure must be IP45 when the door is securely closed and sealed.		
g	The kiosk must have a metal back plate where the DIN rail to secure meters and miniature circuit breaker will be installed		
h	DIN rail to install meters must be supplied with the kiosk		
i	Kiosk must have two cable entries and up to12 exit knockouts all at the bottom of the kiosk. The knockouts must be constructed in a way that prevents unauthorized opening.		
j	The kiosk must be a robust kiosk which provides physical protection because of the design and the material used but must also function as an information system via a GPRS network.		
k	The kiosk must be designed in such a way that the material thickness will prevent any attempt at physical destruction whether it is by mechanical or abrasive means, with a minimum of 2mm thickness.		
l	The apertures, doors and hinges must be located internally as to prevent unauthorized access into the kiosk		
m	Kiosk should be supplied with the electronic equipment that makes it possible to monitor the status of kiosk on software installed in a remote computer. (see item 4.5 for requirements of the electronic equipment and software)		
n	The kiosk must have a SABS approval mark for low voltage assemblies		
o	The enclosure must be made of stainless steel or 3CR12 steel and must be corrosion resistant.		
p	The kiosk must be suitable to operate in temperature of +45C and - 10C		

E1.4	**CONCRETE PLINTH FOR THE METERING ENCLOSURES**	**Yes**	**No**
E1.4.1	**CONCRETE PLINTH FOR THE METERING ENCLOSURE:**		
a.	The plinth must be steel reinforced (grid of not less than 8mm steel)		
b.	Concrete strength must be at least 30MPA.		
c.	The plinth must have a height of at least 600mm and a thickness of 100mm from the top to the bottom.		
d.	The enclosure must fit and be secured exactly onto the plinth with no parts of the enclosure hanging over the edges of the plinth.		
e.	Provision should be made on the plinth to lift it with a crane truck.		
f.	4 x 12mm threaded bars, 300mm long, must be cast inside and correspond with the inner flange corners on the metering enclosure.		
g.	The planting depth of the plinth will be ±400mm.		
E1.5	**ELECTRONICS & SOFTWARE**	**Yes**	**No**
a.	Electronics should be fitted in each enclosure and the software supplied, must be capable of communicating with the electronics and capture and report all events of the electronics. The following features (minimum) are required:		
b.	Electronics and software shall identify the authorized person opening and closing any enclosure.		
c.	Electronic and software shall keep record of the date and time when the enclosure was opened and closed.		
d.	Electronics and software shall be capable to identify the location of any enclosure.		
e.	Electronic and software shall be capable to remotely program any enclosure to ass new keys or cancel any key on any enclosure.		
f.	Electronic and software shall be capable of allowing individual selective programming of keys.		
g.	Electronic and software shall be capable to indicate the battery backup voltage at the time of request.		

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h.	Electronic and software shall be capable of reporting an alarm to a specified PC location whenever any enclosure is opened.		
i.	Electronic and software shall be capable to indicate the serial number of enclosures including date and time of the request.		
j.	Electronic and software shall be capable to report an alarm immediately to specified PC location whenever a power failure is detected in any enclosure.		
k.	Electronic and software shall be capable of reporting an alarm immediately to specified PC location whenever an attempt is made to gain access by means of cutting torch.		
l	Electronic and software shall be capable to detect and store at least the last fifty (50) events of any enclosure before it is overwritten. Any early alarm should warn specified PC station if the event recording has reached 80% of its capacity for an operator to download and store the information on council`s IT server stations.		

E1.5.1	**ELECTRONIC AND SOFTWARE SHALL BE CAPABLE OF COMMUNICATING AND REPORTING THE STATUS OF THE SAID METERS, THE FOLLOWING IS REQUIRED.**	**Yes**	**No**
a.	Indicate the meter number when requested		
b.	Indicate the serial number of the meter when requested.		
c.	Indicate the location of the meter.		
d.	To establish the credit available on any of the said meters		
e.	Automatically report faulty / tempered meters.		
f.	To load credit token remotely on any of the said meters.		
g.	To enter a tamper reset code remotely on any of the said meters.		
h.	To charge the tariff of any of the said meters.		
i.	To change the current trip rating of any of the said meters.		
j.	To fully communicate and obtain any other information not mentioned above from the said meters as indicated in their operating manuals (Example: Tarff codes)		

E1.6 SURGE ARRESTORS FOR THE KIOSKS

E1.6.1	**APPLICATIONS**	**Yes**	**No**
a	Overvoltage protection		
E1.6.2	**FEATURES**	**Yes**	**No**
	High peak surge current rating of 25k Disk type, metallized • Rated disk diameter = 32 Tolerance of V_v at 1 mA: ±10% Max. AC voltage = 460. Epoxy resin coating. Customized cable leads (Short as physically possible)		
E1.6.3	**ELECTRICAL DATA**	**Yes**	**No**
	Maximum rating (85 ºC) Max. Operating AC voltage VRMS = 460V Max. Operating DC voltage VDC = 615V Surge current (8/201time µs) Imax = 25000A Energy absorption (2 ms) Emax = 660J Average power dissipation Pmax = 1.2W Characteristics (25 ºC) Varistor voltage at 1 mA Vv = 750 V ±10% Clamping voltage at 200Vcmax A (8/20= µs) 1240 V Type Capacitance at 1kHz C= 1200 pF		

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E2. POLE-MOUNTED SERVICE DISTRIBUTION BOXES- POLYETHYLENE

No	Description			Compliance	
E2.1	**GENERAL**			**Yes**	**No**
a	Nothing in this specification shall lessen the obligations of the supplier. The supplier shall be fully responsible for the design and its satisfactory performance in service. Approval by Stellenbosch Municipality shall not relieve the supplier of the responsibility for the adequacy of the design.				
b	This specification covers the requirements for pole-mounted service distribution boxes shall be manufactured in accordance with NRS 032:2001. The specific requirements for Stellenbosch Municipality are specified below. Where conflicting requirements with the NRS 032:2001 occur, this specification shall take precedence.				
E2.2	**Compliance with standard specifications**			**Yes**	**No**
a.	Service Distribution Boxes –Pole-mounted types:		NRS 032:2001		
E2.3	**Constructional Requirements**				
a	Material	Polyethylene			
b	Construction	Shall be manufactured from compounded light grey UV 25 stabilized Linear Low-Density Polyethylene (LLDPE) using rotational moulding and designed to be such that all external surfaces are —rounded‖ to prevent impact resistance and dielectric strength. LLDPE used must be chemically resistant and resistant to deterioration from prolonged contact with soil and/or moisture and to abrasion, heat and specifically treated with stabilizing additives to provide enhanced UV breakdown resistance. Material must be free from blow holes and defects Shall have a 19mm wooden mounting block board and equipped with 2 x stainless steel pole mounting brackets.			
c	Colour	Light Grey			
d	Bottom cable entries	Required (to fit to 16mm² bundle)12 way only			
e	Pole mounted Brackets	2 x Stainless Steele pole mounting brackets shall be fitted except for item 1 and 3 that will be wall mounted without brackets.			
f	Lockable facilities	and **"no piano OR any exte accepted** Doors to have a 20 x 20mm internal perimeter stiffener Danger labels on the door must be of the mould-in graphic type Must open upwards at least 90° and must slide back into the enclosure where it can be **"st put** "in the open position. Captive Stainless-steel screw **(Allen Key Head)** to be provided for locking plus a **lockable anti-vandal lock** must be added All rivets, bolts, washers and set screws must be stainless steel.			
g	Enclosure Sizes	2 Way (330h x 235w x 160d) mm 3 Way (310h x 370w x 185d) mm 4 Way (470h x 325w x 160d) mm 12 Way (640h x 630w x 235d) mm			
E2.4	**Tests**			**Yes**	**No**
a	Test reports for type and routine tests as per NRS 032:2001 to be provided. Test to be done by an accredited laboratory				

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E2.5	Making	Yes	No
a	Marking as per NRS 032:2001 to be provided.		

SECTION F: PADLOCKS, LOCKING MECHANISMS AND ACCESSORIES

F1. NYLON PADLOCKS

Item no	Description	YES	NO
4.1	Padlocks shall be compatible to the existing approved key alike, currently used by Stellenbosch Municipality. Locks shall be supplied without keys. Impressed marking shall be done on the one side of the locks. This marking side shall be divided in two blocks for the indent names. Manufacturer and the letters "STBMUN" sizes in and indent depth for easy reading in the same colour as the colour of padlock; Key system is Key no 1: Red Green Blue Key no 2: Green Blue Key no 3: Green Key no 4: Yellow		
4.1.1	**Red** padlocks shall be constructed of a heavy-duty nylon compound with a smooth finish. The width shall be 45mm with an inside shackle length of 30mm when the lock is closed and a shackle thickness of 6mm. The barrels of the locks shall be non-corrosive with a stainless hardened steel shackle		
4.1.2	**Blue** padlocks shall be constructed of a heavy-duty nylon compound with a smooth finish. The width shall be 45mm with an inside shackle length of 30mm when the lock is closed and a shackle thickness of 6mm. The barrels of the locks shall be non- corrosive with a stainless hardened steel shackle		
4.1.3	**Green** padlocks shall be constructed of a heavy duty nylon compound with a smooth finish. The width shall be 45mm with an inside shackle length of 30mm when the lock is closed and a shackle thickness of 6mm. The barrels of the locks shall be non- corrosive with a stainless hardened steel shackle		
4.1.4	**Yellow** padlocks shall be constructed of a heavy-duty nylon compound with a smooth finish. These padlocks shall have the same design as the red, blue and green padlocks. The width shall be 50mm with an inside shackle of 30mm when the lock is closed and a shackle thickness of 8mm. The barrels of the locks shall be non-corrosive with a stainless hardened steel shackle.		

F2. HIGH AND SECURITY PADLOCKS WITH CONTROLLED AND SECURE 6-PIN "EDGE" KEYS

Item no	Description	YES	NO
	PADLOCKS TO BE USED BY ELECTRICITY DEPARTMENT		
F2.1	**Level "A" Padlocks for Switching on High & Medium voltage Controlled and secured 6-Pin "Edge" keys:**		
F2.1.1	Padlocks are aluminium red 44x8x28mm with boron short shackle engraved		
F2.1.2	Padlocks are aluminium red 44x8x50mm with boron long shackle engraved		
F2.1.3	Padlocks laminated 54x8mm with boron shackle engraved		

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F2.1.4	Padlocks laminated & Shrouded 54x8mm with boron shackle engraved		
F2.1.5	Padlock c/w bracket 73mm wide with 9mm boron shackle		
F2.2	**Level "B" Padlocks for Metering High & Medium voltage Controlled and secured 6-Pin "Edge" keys:**		
F2.2.1	Padlocks are aluminium black 44x8x28mm with boron short shackle engraved		
F2.2.2	Padlocks are aluminium black 44x8x50mm with boron long shackle engraved		
F2.2.3	Padlocks laminated 54x8mm with boron shackle engraved		
F2.2.4	Padlocks laminated & Shrouded 54x8mm with boron shackle engraved		
F2.2.5	Padlock c/w bracket 73mm wide with 9mm boron shackle. Latch cylinder core only KAMK to existing key		
F2.3	**Level "C" Low Voltage Controlled and secured 6-Pin "Edge" keys:**		
F2.3.1	Padlocks are aluminium yellow 44x8x28mm with boron short shackle engraved KAMK		
F2.3.2	Padlocks are aluminium yellow 44x8x50mm with boron long shackle engraved KAMK Code:		
F2.3.3	Padlocks laminated 54x8mm with boron shackle KAMK engraved KAMK Code:		
F2.3.4	Padlocks laminated & Shrouded 54X8mm with boron shackle engraved KAMK Code:		
F2.3.5	Padlock c/w bracket 73mm wide with 9mm boron shackle KAMKCode: Latch cylinder core only KAMK Code:		
F2.4	**Level "D" Metering Security P secured 6-Pin "Edge" keys:**		
F2.4.1	Padlocks are aluminium green 44x8x28mm with boron short shackle engraved KAMK Code:		
F2.4.2	Padlocks are aluminium green 44x8x50mm with boron long shackle engraved KAMK Code:		
F2.4.3	Padlocks laminated 54x8mm with boron shackle KAMK engraved Code:		
F2.4.4	Padlocks laminated & Shrouded 54x8mm with boron shackle engraved KAMK Code:		
F2.4.5	Padlock c/w bracket 73mm wide with 9mm boron shackle KAMK Code: Latch cylinder core only KAMK		
	PADLOCKS TO BE USED BY WATER WORKS DEPARTMENT		
F2.5	**Water Works - Gates**		
F2.5.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.5.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.5.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.5.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.5.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.6	**Water Works - Reservoirs**		
F2.6.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.6.2	Padlocks Laminated Shrouded Black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.6.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.6.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.6.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		

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F2.7	**Water Works - Pumps**		
F2.7.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.7.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.7.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.7.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.7.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.8	**Paradyskloof WTP - Paradyskloof (Existing Key Ref: "FF1/UM")**		
F2.8.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.8.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.8.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.8.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.8.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.9	**Paradyskloof WTP –Idas Valley (Existing Key Ref: "FF2/UM")**		
F2.9.1	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.9.2	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.9.3	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.9.4	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.9.5	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.9.6	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.9.7	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.9.8	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.9.9	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.10	**Bosbou - Bosbou (Existing Key Ref:**		
F2.10.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.10.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		
F2.10.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.10.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.10.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.11	**Bosbou –Stores (Existing Key Ref**		
F2.11.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		

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F2.11.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.11.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.11.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.11.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.12	**Bosbou –Container (Existing Key**		
F2.12.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code: PIS0024004		
F2.12.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code: PIS0022004		
F2.12.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		
F2.12.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		
F2.12.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		
F2.13	**High Security Padlock Accessories**		
F2.13.1	**Adjustable cable locks for ladders Code: PSI00300002** Set of two, keyed alike nylon covered braided s/s cable 10x 1800mm		
F2.13.2	**Lubricant Code: PSI0010088** Dry PTFE padlock lubricant Aerosol 150ml		
F2.13.3	**Heavy Duty Bar Hasp Code: PIS0010101** Flat Bar hasp heavy duty hardened steel 180mm straight		
F2.13.4	**Heavy Duty Hasp Single Swivel Code: PIS0027014** Bar hasp heavy duty hardened steel 160mm		
F2.13.5	**Heavy Duty Hasp Double Swivel Code: PIS0010114** Bar hasp heavy duty hardened steel 160mm		
F2.13.6	**Heavy Duty Barrel Bolt Code: PIS0010116** Hardened steel 180mm straight		
F2.13.7	**High Security Chain Code: PIS0027011** Hardened steel 10 x 1000m		
F2.14	**SAFETY LOCKOUT EQUIPMENT**		
F2.14.1	**Safety Padlock (Private padlocks) Individual Personal worn Lockout Carry kits c/w twelve nylon private padlocks with stainless steel shackles 35x4,7x38mm RED KAMKKR per set engraved padlocks & keys code: PIND001007/31** • Lockout Carry Bracket • Nylon padlocks 35x4.76x38mm c/w s/s shackle 316 with 6-pin tumbler • Chemical, temperature extremes, and UV stable		
F2.14.2	**aluminum safety hasps 6mm red code: PIS0010019** • 25x6 inside jaw diameter, holds up to 6 padlocks • Spark resistant aluminum		
F2.14.3	**aluminum safety hasps 6mm red code: PIS0010020** • 38x6 inside jaw diameter, holds up to 6 padlocks • Allows Lockout by multiple workers at each lockout point • Spark resistant aluminum		
F2.14.4	**Circuit Universal Breaker Miniature Code: PIS0010107**		
F2.14.5	**Lockout Standard Size Breaker Toggles Code: PIS0010047**		
F2.14.6	**Lockout Wide or Tall Breaker Toggles Code: PIS0010046**		

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F3. LOCKOUT PADLOCKS FOR ARTISANS

Item no	Description	YES	NO
F3.1	**Set of 12 nylon padlocks with stainless steel shackles 35 x 4.7 x38mm RED Keyed Alike per set engraved with numbering code** Lockout Carry bracket holds twelve safety padlocks near lockout point to help ensure all locations are locked out. Nylon padlocks must have a Shackle diameter of 4.76mm. Marine grade 316 stainless steel shackle provides superior corrosion resistance Body width 35mm with 38mm high clearance Key retaining –ensures padlock is not accidentally left unlocked Chemical, temperature extremes, and UV stable Includes English write-on “Danger” and “Pr Keyed Alike different 6-pin tumbler cylinder Laser Engraving allows permanent identification of employee information on padlocks and/or key		

F4. ALUMINIUM SAFTEY HASPS 6MM X 25 GALVANIZED

Item no	Description	YES	NO
F4.1	Allows lockout by multiple workers at each lockout point Control cannot be turned on u removed from hasp Spark resistant aluminum		

F5. ALUMINIUM SAFTEY HASPS 6MM X 35MM

Item no	Description	YES	NO
F5.1	38x6 inside jaw diameter, holds up to 6 padlocks Allows lockout by multiple workers at each lockout point Control cannot be turned on u removed from hasp Spark resistant aluminum		

F6. LOCKOUT TAGS “DO NOT OPERATE” – Customer made – 12/pack

Item no	Description	YES	NO
F6.1	Re-writable tags 146mm high x 80mm wide heavy-duty c/w photo ID label Brass grommet 12mm diameter accepts all safety padlocks Durable polyester laminate resists water grease and extreme temperatures Heavy Duty construction Customized (name, department, expected completion)		

F7. ADJUSTABLE CABLE LOCKS FOR LADDERS

Item no	Description	YES	NO
F7.1	Set of two keyed alike Braided nylon covered s/s cable 10x1800mm		

F8. LUBRICANT

Item no	Description	YES	NO
F8.1	Dry PTFE padlock lubricant		

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	Aerosol 150ml		

F9. HEAVY DUTY HASP

Item no	Description	YES	NO
F9.1	Bar hasp heavy duty hardened steel flat 180x44		

F10. HEAVY DUTY HASP 90 DEGREES (Bar hasp heavy duty hardened steel 180x44)

Item no	Description	YES	NO
F10.1	**Harden steel single hinge hasp 160mm**		
F10.2	**Harden steel double hinge 197mm**		

F11. HIGH SECURITY CHAIN

Item no	Description	YES	NO
F11.1	Hardened steel 10x1000mm		

SECTION G: SUBSTATION, MINISUB MATERIAL AND ACCESSORIES

G1. DANGER SIGNS

Item No.	Description		Compliance	
G1.1	**RECTANGULAR MV DANGER SIGN**		**Yes**	**No**
a	Dimensions (see attached image)	270 mm x 120mm		
b	Material	Chromadek		
c	Danger signs must be printed with a direct UV printer on a 0.6 chromadek sheet.			
d	All the signs must be drilled, 4 or 6 holes			
G1.2	**RECTANGULAR LV DANGER SIGN**			
a	Dimensions (see attached image)	270 mm x 120mm		
b	Material	Chromadek		
c	Danger signs must be printed with a direct UV printer on a 0.6 chromadek sheet.			
d	All the signs must be drilled, 4 or 6 holes			
G1.3	**TRIANGULAR DANGER SIGN**			
a	Dimensions (see attached image)	290 mm x 290mm		
b	Material	Chromadek		
c	Danger signs must be printed with a direct UV printer on a 0.6 chromadek sheet.			
d	All the signs must be drilled, 6 holes			

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1.Rectangular MV sign	2. Rectangular LV sign	3. Triangular sign
		

G2. CONCRETE MINISUB PLINTH

Item No.	Description	Compliance	
G2.1	**B TYPE MINISUB CONCRETE PLINTH WITH REMOVABLE SIDE WALL**	**Yes**	**No**
a	Concrete strength: 25 – 30MPA		
b	2 x lifting holes		
c	Y 12 steel reinforcing. Concrete slab must be reinforced with 12mm steel bars		
d	Dimensions: 3200mm x 1300mm x 300mm (see attached drawing- figure 50.1)		
G2.2	**4 WAY CONCRET PLINTH**		
a	Concrete strength: 25-30MPA		
b	2 x lifting holes		
c	Y 12 steel reinforcing. Concrete slab must be reinforced with 12mm steel bars		
d	Dimensions: 1850mmx 1200mm x 300mm (see attached drawing- figure 50.2)		
G2.3	**3 WAY CONCRETE PLINTH**		
a	Concrete strength: 25-30MPA		
b	2 x lifting holes		
c	Y 12 steel reinforcing. Concrete slab must be reinforced with 12mm steel bars		
d	Dimensions: 1500mmx 1200mm x 300mm (see attached drawing- figure 50.3)		

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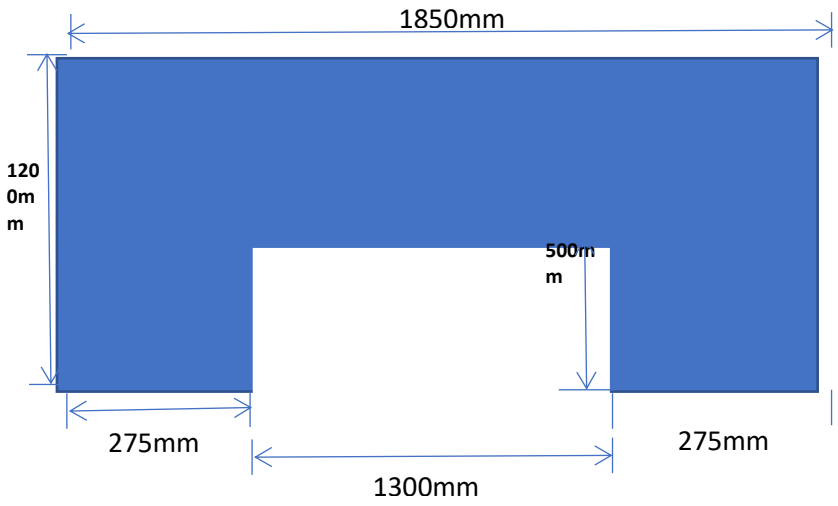
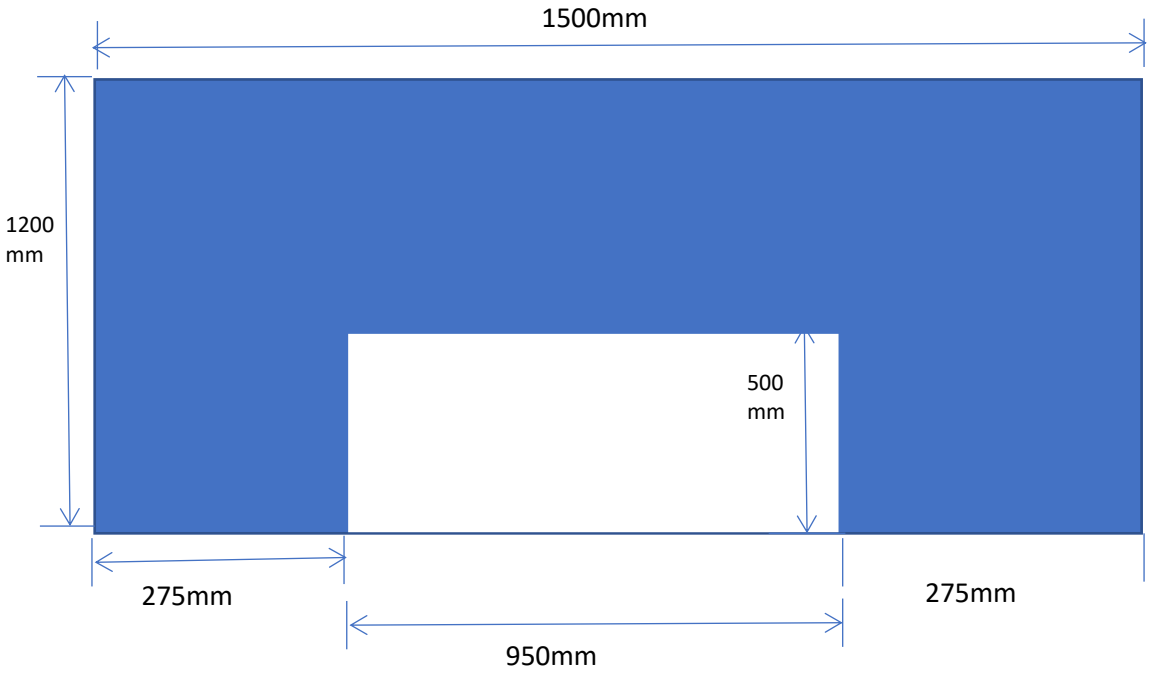
4-way concrete plinth



3-way concrete plinth



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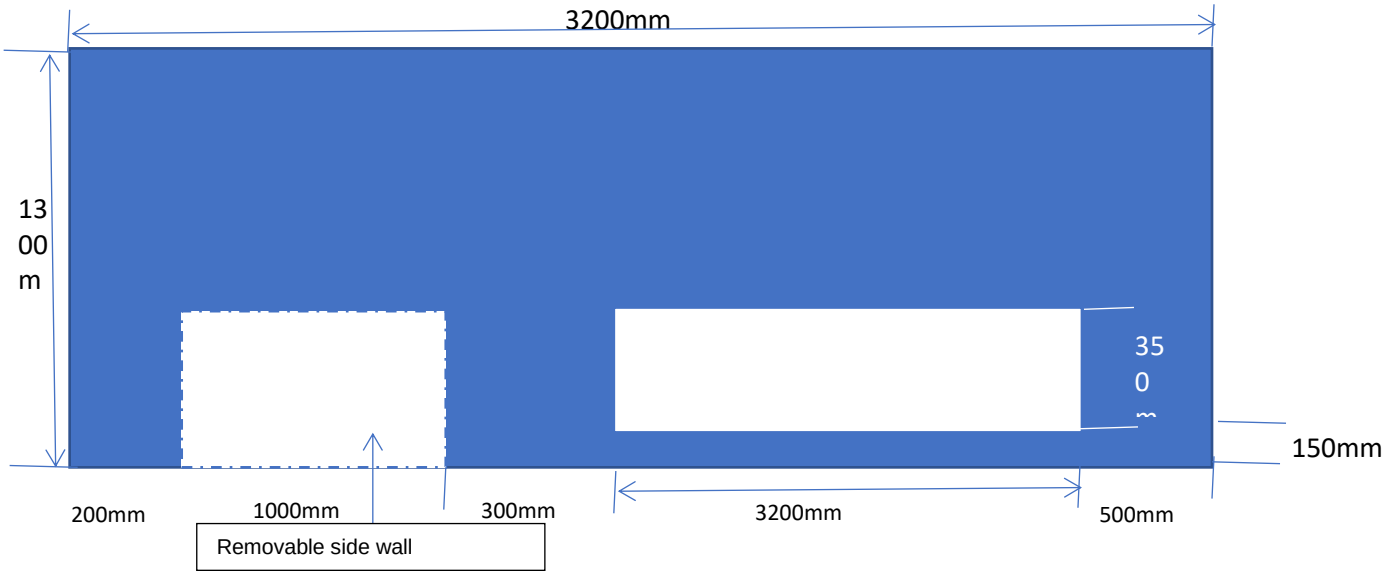
B Type minisub plinth



G3. SUBSTATION BATTERIES

G3.1SCOPE:

G3.1.1 This specification provides for the manufacture, supply and delivery of a freestanding battery chargers and battery sets to be combined to form a battery bank for various DC supplies as required in substations.

G3.1.2 The battery sets are required to replace existing old complete sets and in some instances cells only. The charger unit is existing installations or will be replaced with stores stock. The typical charger unit is a self-contained floor standing cabinet manufactured from steel with front access for battery installation and maintenance. The charger unit housed in the top compartment and the battery bank in the bottom compartment of the cabinet. All ancillary equipment necessary for alarms and charger management is housed in the top compartment.

G3.1.3 Full detail of the discharge rates and charging rates after save complete discharge of the batteries offered shall be submitted with the quotation.

Item No.	Description	Compliance	
G3.2	GENERAL	Yes	No
a	The batteries shall be of the compact pocket plate nickel cadmium low maintenance cell type. Similar or equal to the ALCAD type, complying with Specification IEC 60623 having an estimated life of 20 years and requiring topping up every 10 + years. The batteries shall be delivered factory filled with electrolyte and first charge completed. First charge commissioning forms shall be supplied with the batch of batteries on delivery.		

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G3.3	GENERAL REQUIREMENTS		
a	**CONSTRUCTION**		
b	The battery cells shall be the self-contained type and the casing made of transparent approved polypropylene so that the electrolyte levels would be visible from the outside. The lid of the container and container shall be welded together by means of heat sealing in order to create a homogeneous joint. The pocket plate assembly inside the container shall be a nickel hydroxide for the positive and cadmium hydroxide for the negative polarities. The above plates of the battery cell shall be retained in double perforated steel strip pockets.		

G3.4	FILLER CAP	YES	NO
a	Each cell shall have its own sealable filler cap. The flip top open cap shall be of flame arresting design as well as provide effective ventilation to the cell. This cap shall be of such nature that the electrolyte levels can be checked and refilling with water easily done without disconnecting and removing the cells from the battery bank.		
G3.5	**TERMINALS**		
a	The positive and negative terminals shall be installed on top of the cell on the opposite sides of the cell. A minimum of M6 Nickel plated studs shall be installed and welded to the plate frames. The studs shall be compression sealed on the container lid as such that no leaking would occur around the studs. All cell terminals shall be delivered with a flat washer, spring washer and nut for lugs connections.		
G3.6	**CONNECTOR PLATES**		
a	Suitable predrilled lengths of Tinned plates shall be supplied with each set of batteries in order to connect the cells together to form a battery bank of 30V or 110V. The length of plates may vary according the size of the cells offered. The plates shall be of robust design and able to conduct the normal charging, discharging and short circuit current capacities of the batteries on offer.		
G3.7	**OPERATIONS**		
a	The batteries shall be suitable for long shelf life and typically continuous operation cycles of discharging and charging. The load supplied would be protection and monitoring equipment in substations and would generally represent a standing load of 2 to 4 amps on the batteries. The operation of the batteries shall be guaranteed over a wide temperature range.		
G3.8	**DISCHARGE PERIODS**		
a	The batteries offered shall be suitable for very long discharge periods, typically from 2 hours up to 9 hours. A fast recover charge rate (6 to 8 hours) is required and data indicating the discharge / charge rates shall be included with this document.		

G3.9	BATTERY TYPES			
G3.9.1	**Type of batteries**	**Vented pocket plate Nickel Cadmium**		
a	Nominal voltage per cell	1.2 V		
b	Quantity as per 30 V set 11 Ahr	25 series connected		
c	Quantity as per 30 V set 29 Ahr	25 series connected		
d	Quantity as per 110 V set 29 Ahr	85 series connected		
e	Quantity as per 110 V set 49 Ahr	85 series connected		

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f	Quantity as per 110 V set 105 Ahr	85 series connected		
g	Battery nominal voltage for 30 V sets	30 V		
h	Battery nominal voltage for 110 V sets	110 V		
i	Maximum boost / float voltage 30 V sets	35 V DC / 38 V DC (Pre-settable)		
j	Maximum boost / float voltage 110 V sets	125V DC / 142V DC (Pre-settable)		
k	Operating temperature	-10 - +40 deg Celcius		

G4. BATTERY CHARGER UNITS

G4.1 SCOPE:

G4.1.1 This specification provides for the manufacture, supply and delivery of freestanding battery chargers to accommodate battery set as specified in this document to be combined to form a battery supply bank for various DC supplies as required in substations.

G4.1.2 The battery charging units are required to replace existing old complete sets and in some instances cells only. The charger unit is existing installations or will be replaced with stores stock. The typical charger unit is a self-contained floor standing cabinet manufactured from steel with front access for battery installation and maintenance. The charger unit housed in the top compartment and the battery bank in the bottom compartment of the cabinet. All ancillary equipment necessary for alarms and charger management is housed in the top compartment.

G4.1.3 Full detail of the discharge rates and charging rates after save complete discharge of the batteries offered shall be submitted with the quotation.

G4.1.4 Brief description of the 30 V and 110V chargers.

Please note that the 11Ahr batteries shall be installed in a standard 30V 10 A chargers as and when required. All chargers are fitted with automatic boost function which will switch on at pre-set intervals and durations as required. This is adjustable to accommodate the batteries.

Item No.	**Description**		**Compliance**	
G4.2	**BATTERY CHARGER 30 V DC (11 and 29 Ahr)**		**Yes**	**No**
a	Typical size of battery cabinet	60cm W x 60cm D x 130cm H		
b	Power supply to unit	230/ 250 1 Phase		
c	Charger rating	10A DC Continuous		
d	Standing load capacity (minimum)	2.5 A DC		
e	Charger type (Constant voltage)	Ampere limited		
f	Regulation	+/- 10 % Input variation, +/- 1 % DC		
g	Multi alarm module including	Battery fail		
		Low Voltage		
		AC fail		

Item No.	**Description**		**Compliance**	
G4.3	**BATTERY CHARGER 110 V DC (49 Ahr)**		**Yes**	**No**
a	Typical size of battery cabinet	100cm W x 60cm D x 130cm H		
b	Power supply to unit	230/ 250 1 Phase		
c	Charger rating	20A DC Continuous		
d	Standing load capacity (minimum)	4.5 A DC		
e	Charger type (Constant voltage)	Ampere limited		

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f	Regulation	+/- 10 % Input variation, +/- 1 % DC		
g	Multi alarm module including	Battery fail		
		Low Voltage		
		AC fail		

G5. VIRGIN AND REGENERATED TRANSFORMER OIL

G5.1 Scope

G5.1.1 The purpose of the request is for the supply and delivery of virgin as well as regenerated, filtered and polished transformer oil per 210 liter drums. All oil delivered shall be supplied in new steel drums only and sealed to exclude any moisture ingress. This oil is intended for maintenance of transformers and oil type switchgear. The oil shall comply with the specification for usage in high / medium voltage transformers and switchgear for typical insulation and cooling function.

G5.2 General

G5.2.1 The process of regeneration shall remove free water, moisture, suspended particles, dissolved acids, gasses and improve physical properties to ensure the oil comply with SANS 555. A dielectric strength of 70KV or above is required when drums are filled.

G5.2.2 Quantities required would typically be 5 to 10 drums per order, depending on maintenance programs. Lead times would be mutually agreed on with the supplier. Typically, delivery will be required within 5 working days. Suppliers are required to indicate on the quotation should longer lead times be needed for more than the minimum quantity per order.

G5.3 Exchange oil:

G5.3.1 Rates for the regenerated oil shall include the collection of used oil in 210 lt. drums on a drum for drum exchange basis. This used oil will be stored at the Electrical stores, Stellenbosch. The price for regenerated oil must include the collection of this oil for recycling / regeneration.

G5.4 Specification for oil samples delivered with oil

All samples shall be collected in approved new oil sampling tins.

G5.4.1 Testing of samples
G5.4.1.1 Samples shall be submitted for testing at a SANAS accredited Laboratory. Test reports for samples shall be issued on official documentation from the relevant SANAS laboratory.
G5.4.1.2 When testing of drums of oil is needed, samples will be done and tested in batches of 5 to 10 drums.
G5.4.1.3Test reports shall be issued and accompanied every batch of virgin as well as regenerated oil delivered.

G5.5 Standards and specification

SABS 555
NRS 079-1:2004
IEC 60567
IEC 61619
IEC 60814
IEC 62021-1
IEC 60156
ASTM D5837

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Test reports shall include the following minimum analysis:

Dielectric Strength:
Moisture Content:
Gas content:
Acidity:
PCB content:
Furaldehyde analysis:
Visual comment:

G6. MINIATURE CIRCUIT BREAKERS

									Compliance	
Item No.	**Description**	**Poles**	**Voltage**	**kA**	**Curve**	**MCB width(mm)**	**Std Pack**	**Rating Amps**	**Yes**	**No**
G6.1 LOW VOLTAGE MINIATURE CIRCUIT BREAKERS – LOW RATING										
G6.1.1	Low Voltage Circuit Breaker **QF-1(26)** Orange Handle Dual Mount **Low Rating**	1	240	6	1	26	12	63		
G6.1.2	Low Voltage Circuit Breaker **QF-1(26)** White Handle Dual Mount **Low Rating**	1	240	6	2	26	12	10		
G6.1.3	Low Voltage Circuit Breaker **QF-1(26)** White Handle Dual Mount **Low Rating**	1	240	6	2	26	12	20		
G6.1.4	Low Voltage Circuit Breaker **QF-1(26)** White Handle Dual Mount **Low Rating**	1	240	6	2	26	12	63		
G6.1.5	Low Voltage Circuit Breaker **QF-3(26)** Orange Handle Dual Mount **Low Rating**	3	415	6	2	78	4	63		
G6.2 LOW VOLTAGE MINIATURE CIRCUIT BREAKERS – HIGH RATING									**Yes**	**No**
G6.2.1	Low Voltage Circuit Breaker **QF-1(26)** Orange Handle Dual Mount **High Rating**	1	240	6	1	26	12	80		
G6.2.2	Low Voltage Circuit Breaker **QF-3(26)** Orange Handle Dual Mount **High Rating**	3	415	6	1	78	4	80		

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G6.2.3	Low Voltage Circuit Breaker **QF-3(26)** Orange Handle Dual Mount **High Rating**	3	415	6	1	78	4	100		
G6.2.4	Low Voltage Circuit Breaker **QF-3(26)** White Handle Dual Mount **High Rating**	3	415	6	2	78	4	100		

									Compliance	
Item No.	**Description**	**Type**	**Poles**	**kA**	**Terminals**	**Voltage**	**No. interface barriers**	**Rating Amps**	**Yes**	**No**
G6.3 MOULDED CASE CIRCUIT BREAKERS										
G6.3.1	Moulded Case Circuit Breaker (Thermal - Magnetic)	G15D	3	15	G1	415	4	100		
G6.3.2	Moulded Case Circuit Breaker (Thermal - Magnetic)	G15D	3	15	G1	415	4	125		
G6.3.3	Moulded Case Circuit Breaker (Thermal - Magnetic)	F15D	3	15	G1	415	4	150		
G6.3.4	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G1	415	4	80		
G6.3.5	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G1	415	4	100		
G6.3.6	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G1	415	4	125		
G6.3.7	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G1	415	4	150		
G6.3.8	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G4B	415	4	200		

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G6.3.9	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G4B	415	4	225		
G6.3.10	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	J25S	3	25	G4B	415	4	250		
G6.3.11	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	L20B	3	20	G4B	415	4	250		
G6.3.12	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	L20B	3	20	G4B	415	4	300		
G6.3.13	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	L40B	3	40	G4B	415	4	200		
G6.3.14	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	L40B	3	40	G4B	415	4	225		
G6.3.15	Moulded Case Circuit Breaker (Hydraulic - Magnetic)	L40B	3	40	G4B	415	4	350		

G7. ELECTRICAL SWITCHES AND PLUGS – FLUSH MOUNTED

						Compliance	
ITEM No	**DESCRIPTION**	**Voltage**	**Amperes**	**Lever**	**Outlets**	**Yes**	**No**
G7.1	Switches complete with plate	230	15	1			
G7.2	Plug Switch complete with plate	230	16		1		
G7.3	Plug Switch complete with plate	230	16		2		

G8. EARTH LEAKAGES

									Compliance	
Item No.	**Description**	**Type**	**Poles**	**k A**	**Sensitivity**	**Voltage**	**Width (mm)**	**Rating Amps**	**Yes**	**No**
G8.1 SINGLE PHASE EARTH LEAKAGES										
G8.1.1	Hydraulic magnet single phase earth leakage. **Mini & DIN rail mount.**	QF17 A	2(1+N)	6	30mA	230	26	20		
G8.1.2		QF17 A	2(1+N)	6	30mA	230	26	40		

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G8.1.3	Must have a test button. Terminal wire size range 0.75mm2-25mm2.	QF17 A	2(1+N)	6	30mA	230	26	63		
G8.1.4		SF15A	2(1+N)	6	30mA	230	65	20		
G8.1.5	Hydraulic magnet single phase earth leakage. **Mini rail & surface mount.** Must have a test button. Terminal wire size range 0.75mm2-35mm2.	SF15A	2(1+N)	6	30mA	230	65	40		
G8.1.6		SF15A	2(1+N)	6	30mA	230	65	60		
G8.1.7		SF15A	2(1+N)	6	30mA	230	65	80		
G8.2 THREE PHASE EARTH LEAKAGES										
G8.2.1	Hydraulic magnet three phase earth leakage. Mini rail & Surface mount. Must have a test button. Terminal wire size range 0.75mm2-35mm2.	SM36 A	(3+N)	6	250mA	415	117	40		
G8.2.2		SM36 A	(3+N)	6	250mA	415	117	60		
G8.2.3		SM36 A	(3+N)	6	250mA	415	117	80		
G8.2.4		SM36 A	(3+N)	6	250mA	415	117	100		

G9. FUSE LINKS (For Oil Switchgears)

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
G9.1.1	Fuse links shall be suitable for use in oil switchgears		
G9.1.2	Must be fitted with a powerful pyrotechnic strike pin		
G9.1.3	Must be suitable for use in 11kV and 12kV		
G9.1.4	Must comply with IEC 282-1, BS 2692-1 and ESI standard 12-8		
G9.1.5	Must be SABS approved		
G9.1.6	Current rating must be 31.5A or 40A or 63A or 100A		

G10. CONNECTOR STRIPS

		Compliance	
ITEM NO	**Description**	**YES**	**NO**
G10.1.1	Flexible black polypropylene with easy snap		
G10.1.2	Connector strip must be suitable for connecting single core wires rated 15 Amps or 30 Amps		

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CAPACITY:		Name of firm	
SIGNATURE:		DATE:	

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17. PRE-QUALIFICATION SCORE SHEET

*** Proof of Contactable References is required, as indicated below, and must accompany each proposal.**

Bidders must submit at least one reference letter from previous clients for each item(s) tendering for as confirmation that they have supplied such material previously. Failure to attach such reference letter(s) will lead to the disqualification of the bid.

SIGNATURE (Bidder)		**FOR OFFICE USE ONLY:**	
CAPACITY		Evaluated by	
NAME OF FIRM		Signature:	
NAME (PRINT)		Designation:	
DATE		Date:	

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18. SCHEDULE OF PLANT AND EQUIPMENT

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

DETAILS OF MAJOR EQUIPMENT THAT IS OWNED BY AND IMMEDIATELY AVAILABLE FOR THIS CONTRACT.			
QUANTITY	**DESCRIPTION**	**SIZE**	**CAPACITY**

Attach additional pages if more space is required.

DETAIL OF MAJOR EQUIPMENT THAT WILL BE HIRED, ORE ACQUIRED FOR THIS CONTRACT IF MY / OUR TENDER IS ACCEPTED.			
QUANTITY	**DESCRIPTION,**	**SIZE**	**CAPACITY**

Attach additional pages if more space is required.

Number of sheets appended by the tenderer to this schedule *(If nil, enter **NIL**)*	

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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19. SCHEDULE OF SUBCONTRACTORS

I/we the tenderer, notify the Stellenbosch Municipality that it is our intention to employ the following Subcontractors for work in this contract.

SUBCONTRACTORS				
Category / Type	**Subcontractor Name; Address; Contact Person; Tel. No.**		**Items of work (pay items) to be undertaken by the Subcontractor**	**Estimated cost of Work (Rand)**
1.	Name of firm			
	Contact person			
	Tel No			
	Address			
2.	Name of firm			
	Contact person			
	Tel No			
	Address			
3.	Name of firm			
	Contact person			
	Tel No			
	Address			
4.	Name of firm			
	Contact person			
	Tel No			
	Address			
5.	Name of firm			
	Contact person			
	Tel No			
	Address			
Number of sheets appended by the tenderer to this schedule *(If nil, enter **NIL**)*				

Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any of the subcontractors not be approved subsequent to acceptance of the tender, this shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed above being approved by the Engineer.

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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20. SCHEDULE OF WORK EXPERIENCE OF THE TENDERER – CURRENT CONTRACTS

CURRENT CONTRACTS						
EMPLOYER (Name, Tel, Fax, Email)		Contact Person (Name, Tel, Fax, Email)		NATURE OF WORK	VALUE OF WORK (INCL. VAT)	DATE COMPLETED
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
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Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				

Attach additional pages if mores space is required.

Number of sheets appended by the tenderer to this schedule (If nil, enter NIL)			
SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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21. SCHEDULE OF WORK EXPERIENCE OF THE TENDERER – COMPLETED CONTRACTS

The following is a statement of similar work successfully executed by myself / ourselves:

COMPLETED CONTRACTS						
EMPLOYER (Name, Tel, Fax, Email)		Contact Person (Name, Tel, Fax, Email)		NATURE OF WORK	VALUE OF WORK (INCL. VAT)	DATE COMPLETED
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				
Name		Name				
Tel		Tel				
Fax		Fax				
Email		Email				

Attach additional pages if mores space is required.

Number of sheets appended by the tenderer to this schedule (If nil, enter NIL)	

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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22. PRICING SCHEDULE

NOTE:

1. **Only firm prices will be accepted. Non-firm prices will not be considered.**
2. **All delivery costs MUST be included in the bid price, for delivery at the prescribed destination.**
3. **Document MUST be completed in non-erasable black ink.**
4. **NO correction fluid/tape may be used.**
   a. **In the event of a mistake having been made, it shall be crossed out in ink and be accompanied by an initial at each and every alteration.**
5. **The Bidder MUST indicate whether he/she/the entity is a registered VAT Vendor or not.**
   a.

I / We _____

(full name of Bidder) the undersigned in my capacity as _____

of the firm _____

hereby offer to Stellenbosch Municipality to render the services as described, in accordance with the specification and conditions of contract to the entire satisfaction of the Stellenbosch Municipality and subject to the conditions of tender, for the amounts indicated hereunder:

	INDICATE WITH AN 'X'									
Are you/is the firm a registered VAT Vendor	**YES**					**NO**				
If "YES", please provide VAT number										

Please note the following:

1. Stellenbosch Municipality reserves the right to downward adjust the scope of work/ quantity required to stay within its budget.
2. Only firm prices will be accepted and non-firm prices will not be considered.

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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PRICING SCHEDULE:

SECTION A: METERING MATERIAL, EQUIPMENT AND ACCESSORIES

A1. METER SEALS

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES (100 seals/pack)	UNIT PRICE VAT INCLUSIVE (per seal) 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A1.1	**Meter seals**		3 000		

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A2. STS COMPLIANT PRE-PAYMENT METERS

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A2.1	**SINGLE AND THREE PHASE PREPAYMENT METERS**				
A2.1.1	Single phase Common Wall base (back plate)		200		
A2.1.2	Single phase Common base STS prepayment (meter only)		200		
A2.2	Three Phase Wall Mounted Dual Function Split meter		400		
A2.3	Single phase DIN Rail Dual Function Split Meter (Meter only)		400		
A2.3.1	User Interface Unit (UIU) [Wired]		200		
A2.3.2	Wireless User Interface Unit (wUIU)		200		
A2.3.2.1	Wireless User Interface Unit (wUIU) that fits on common base back plate		200		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A2.1	**SINGLE AND THREE PHASE PREPAYMENT METERS**				
A2.3.3	Wireless Meter interface Unit (WMI)		200		
A2.4	Wireless Extension Device (wireless radio frequency range extender)		50		
A2.5	Single phase DIN Rail Split Meter with Integrated built-in antennae		400		
A2.6	Single phase DIN Rail Split Meter [Power Line Communication] (Meter only)		200		
A2.6.1	Customer Interface Unit (CIU) that plugs into mains socket outlet		100		
A2.6.2	Customer Interface unit (CIU) that fits onto common base back plate		100		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A2.1	**SINGLE AND THREE PHASE PREPAYMENT METERS**				
A2.7	Data Concentrator Unit (DCU)		10		

A3. FOUR QUADRANT ELECTRONIC DEMAND AND ENERGY METERS WITH GPRS MODEMS

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A3.1.1	Solid State programmable whole current meters, 400V,20A - 100A		100		
A3.1.2	Plug-in (GPRS) modem with external antenna for Item A3.1.1 [meter powered modem]		100		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A3.1.3	Transformer operated programmable meters, 400V,5A(10A)		100		
A3.1.4	Plug-in (GPRS) modem with external antenna for Item A3.1.3 [meter powered modem]		100		
A3.1.5	Single phase direct connected meters, 230V, 100A [not a prepaid meter]		100		
A3.1.6	Plug-in (GPRS) modem with external antenna for Item A3.1.5 [meter powered modem]		100		

A4. GPRS EXTERNAL MODEMS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A4.1	GPRS External Modems		50		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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A5. SMALL POWER DISTRIBUTION BOARDS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A5.1	Ready board with bulkhead fitting		1 000		

A6. SUPPLY AND DELIVERY OF LOW VOLTAGE CURRENT TRANSFORMERS

A6.1.1 Round type instrument current transformers

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.1.1	100/5		30		
A6.1.1.2	150/5		30		
A6.1.1.3	200/5		30		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.1.4	250/5		30		
A6.1.1.5	300/5		30		
A6.1.1.6	350/5		30		
A6.1.1.7	400/5		30		
A6.1.1.8	500/5		30		
A6.1.1.9	600/5		30		
A6.1.1.10	700/5		30		
A6.1.1.11	750/5		30		
A6.1.1.12	800/5		30		
A6.1.1.13	1000/5		30		
A6.1.1.14	1200/5		30		
A6.1.1.15	1600/5		30		

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A6.1.2. Square type instrument current transformers

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.2.1	100/5		30		
A6.1.2.2	150/5		30		
A6.1.2.3	200/5		30		
A6.1.2.4	250/5		30		
A6.1.2.5	300/5		30		
A6.1.2.6	350/5		30		
A6.1.2.7	400/5		30		
A6.1.2.8	500/5		30		
A6.1.2.9	600/5		30		
A6.1.2.10	700/5		30		
A6.1.2.11	750/5		30		
A6.1.2.12	800/5		30		
A6.1.2.13	1000/5		30		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.2.14	1250/5		30		
A6.1.2.15	1600/5		30		

A6.1.3. Square type instrument current Transformers-Split Core

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.3.1	100/5		30		
A6.1.3.2	150/5		30		
A6.1.3.3	200/5		30		
A6.1.3.4	250/5		30		
A6.1.3.5	300/5		30		
A6.1.3.6	350/5		30		
A6.1.3.7	400/5		30		
A6.1.3.8	500/5		30		
A6.1.3.9	600/5		30		
A6.1.3.10	700/5		30		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.3.11	750/5		30		
A6.1.3.12	800/5		30		
A6.1.3.13	1000/5		30		
A6.1.3.14	1250/5		30		
A6.1.3.15	1600/5		30		

A6.1.4 PVC compression glands

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.4.1	PVC compression glands No 1 Black / white		100		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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A6.1.5 Drywall screw

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.5.1	Drywall screw 6mm		100		
A6.1.5.2	Drywall screw 8mm		100		

A6.1.6 Wall anchor plug (nylon) and screws

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.6.1	6 x 30mm wall anchor plug (nylon) and screws		100		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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A6.1.7 Static Residential meter

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
A6.1.7.1	3 Phase 4 wire watt hours static residential meter		30		

SECTION B: UNDERGROUND CABLES, MATERIAL AND ACCESSORIES

B1. NETWORK CABLES

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.1- 11kV PAPER CABLES					
B1.1.1	50mm² Table 18		15 000		
B1.1.2	70mm² Table 18		15 000		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.1.3	95mm² Table 18		15 000		
B1.1.4	120mm² Table 18		15 000		
B1.1.5	150mm² Table 18		15 000		
B1.1.6	185mm² Table 18		15 000		
B1.1.7	240mm² Table 18		15 000		
B1.1.8	300mm² Table 18		15 000		
B1.1.9	50mm² Table 19		15 000		
B1.1.10	70mm² Table 19		15 000		
B1.1.11	95mm² Table 19		15 000		
B1.1.12	120mm² Table 19		15 000		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.1.13	150mm² Table 19		15 000		
B1.1.14	185mm² Table 19		15 000		
B1.1.15	240mm² Table 19		15 000		
B1.1.16	300mm² Table 19		15 000		

B1.2 LOW VOLTAGE CABLES

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.2.1	2.5mm²x 9 core Protection Standard Cable		15 000		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.2.2	2.5 mm² x 12 core protection standard cable		15 000		
B1.2.3	2.5mm² x 2 core PVC SWA PVC		15 000		
B1.2.4	2.5mm² x 3 core PVC SWA PVC		15 000		
B1.2.5	2.5mm² x 4 core PVC SWA PVC		15 000		
B1.2.6	4mm² x 2 core PVC SWA PVC		15 000		
B1.2.7	4mm² x 4 core PVC SWA PVC		15 000		
B1.2.8	10mm² x 2 core PVC SWA PVC		15 000		
B1.2.9	10mm² x 3 core PVC SWA PVC		15 000		
B1.2.10	10mm² x 4 core PVC SWA PVC		15 000		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.2.11	16mm² x 2 core PVC SWA PVC		15 000		
B1.2.12	16mm² x 4 core PVC SWA PVC		15 000		
B1.2.13	25mm² x 4 core PVC SWA PVC		15 000		
B1.2.14	35mm² x 4 core PVC SWA PVC		15 000		
B1.2.15	70mm² x 4 core PVC SWA PVC		15 000		
B1.2.16	95mm² x 4 core PVC SWA PVC		15 000		
B1.2.17	120mm² x 4 core PVC SWA PVC		15 000		
B1.2.18	150mm² x 4 core PVC SWA PVC		15 000		
B1.2.19	185 mm² x 4 core PVC SWA PVC		15 000		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B1.2.20	Unarmoured cable 10mm² x 2 core+stranded comms (1.5mm²)		15 000		
B1.2.21	Unarmoured cable 16mm² x 2 cores +stranded comms (1.5mm²)		15 000		
B1.2.22	10mm² x 2 core +stranded comms(1.0mm) PVC SWA PVC		15 000		
B1.2.23	16mm² x2 core +stranded comms(1.0mm) PVC SWA PVC		15 000		
B1.2.24	16mm² x 4 core + stranded comms(1.0mm) PVC SWA PVC		15 000		
B1.2.25	Saferdac 6mm² XLPE CNE with yellow sheet + 2 x Pilot Cores		15 000		
B1.2.26	Saferdac 10mm² XLPE SNE with yellow sheet + 2 x		15 000		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
	Pilot Cores				

B2. BARE COPPER WIRE

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B2.	**Bare Copper Wire**				
B2.1	Conductor 16mm Bare Copper		15 000		
B2.2	Conductor 35mm Bare Copper		15 000		
B2.3	Conductor 70mm Bare Copper		15 000		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B2.4	Conductor 95mm Bare Copper		15 000		
B2.5	Conductor 120mm Bare Copper		15 000		
B2.6.1	Anti-Theft Bonding & Earthing Cable (10mm)		15 000		
B2.6.2	Anti-Theft Bonding & Earthing Cable (35mm)		15 000		

B3. TERMINATIONS AND ACCESSORIES

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B3	**Terminations and Accessories**				

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ITEM No	DESCRIPTION		MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B3.1	**Cable size mm sq**	**Description: Termination kits for 3 core PILCA DSTA PVC/JUTE cables –ring CT"s as per specification.**				
B3.1.1	16	16-35mm Indoor– 800mm tails Termination ordering code:		100		
B3.1.2	35	35-70mm Indoor– 800mm tails Termination ordering code:		100		
B3.1.3	70	70-95mm Indoor– 800 mm tails Termination ordering code:		100		
B3.1.4	95	95 - 120mm Indoor –800 mm tails Termination ordering code:		100		
B3.1.5	150	120-150mm Indoor –800 mm tails Termination ordering code:		100		
B3.1.6	185	150-185mm Indoor –800 mm tails Termination ordering code:		100		

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NAME OF FIRM			

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ITEM No	DESCRIPTION		MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B3.1.7	All sizes	RICS 3133 Adaptor boot kits with shim and reducing stud 12 –16 mm Kits ordering code:		100		
B3.2	**Description: TERMINATION KITS FOR 3 CORE PILC DSTA PVC/JUTE CALBES –STANDARD AIR TYPE CABLE BOX AS PER SPECIFICATION.**					
B3.2.1	16	16-35mm Indoor – 600 mm tails Termination ordering code:		100		
B3.2.2	35	35-70mm Indoor – 600 mm tails Termination ordering code:		100		
B3.2.3	70	70-95mm Indoor – 600 mm tails Termination ordering code:		100		
B3.2.4	95	95-120mm Indoor – 600 mm tails		100		

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NAME OF FIRM			

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ITEM No	DESCRIPTION		MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
		Termination ordering code:				
B3.2.5	150	120-150mm Indoor –600 mm tails Termination ordering code:		100		
B3.2.6	185	150-185mm Indoor –600 mm tails Termination ordering code:		100		
B3.3	**Description: TERMINIATION KITS FOR 3 CORE PILC DSTA PVC JUTE CABLES**					
B3.3.1	16	16-35mm Outdoor –1200mm tails Termination ordering code:		100		
B3.3.2	35	35-70mm Outdoor –1200mm tails Termination ordering code:		100		
B3.3.3	70	70-95mm Outdoor –1200mm tails Termination ordering code:		100		

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ITEM No	DESCRIPTION		MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B3.3.4	95	95-120mm Outdoor – 1200mm tails Termination ordering code:		100		
B3.3.5	150	150-185mm Outdoor –1200mm tails Termination ordering code:		100		
B3.3.6	185	120-150mm Outdoor –1200mm tails Termination ordering code:		100		
B3.3.7	185	185-240mm Outdoor –1200mm tails Termination ordering code:		100		
B3.4	**STRAIGHT CAST IRON TYPE JOINTS FOR 3 CORE PILC DSTA PVCJUTE CABLES AS PER SPECIFICATIONS**					
B3.4.1	16 - 35	Cast iron joints complete 16 –70mm ref 1001		100		
B3.4.2	70 - 95	Cast iron joints complete 95 –150mm ref 1002		100		

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ITEM No	DESCRIPTION		MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B3.4.3	120 - 185	Cast iron joints complete 185 –300mm ref 1003		100		

B4. LOW VOLTAGE CABLE JOINTS – RESIN SPICING KIT

ITEM NO.	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B4.1.1	LV Cable joints resin spicing kit for conductor size 16-25mm2		200		
B4.1.2	LV Cable joints resin spicing kit for conductor size 35-50mm2		200		

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ITEM NO.	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B4.1.3	LV Cable joints resin spicing kit for conductor size 70mm2		200		
B4.1.4	LV Cable joints resin spicing kit for conductor size 120-150mm2		200		
B4.1.5	LV Cable joints resin spicing kit for conductor size 185-240mm2		200		

B5. PVC GENERAL PURPOSE HOUSE WIRE

ITEM NO.	DESCRIPTION	MANUFACTURE NAME	UNIT	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B5	**House Wire General purpose**					
B5.1.1	**House wire PVC 1.5mm2 (Red)**		Per roll 100m	1 000		
B5.1.2	House wire PVC 1.5mm2 (white)		Per roll 100m	1 000		

SIGNATURE		NAME (PRINT)	
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NAME OF FIRM			

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ITEM NO.	DESCRIPTION	MANUFACTURE NAME	UNIT	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B5.1.3	House wire PVC 1.5mm2 (blue)		Per roll 100m	1 000		
B5.1.4	House wire PVC 1.5mm2 (black)		Per roll 100m	1 000		
B5.1.5	House wire PVC 1.5mm2 (green/yellow)		Per roll 100m	1 000		
B5.2.1	**House wire PVC 2.5mm2 (Red)**		Per roll 100m	1 000		
B5.2.2	House wire PVC 2.5mm2 (white)		Per roll 100m	1 000		
B5.2.3	House wire PVC 2.5mm2 (blue)		Per roll 100m	1 000		
B5.2.4	House wire PVC 2.5mm2 (black		Per roll 100m	1 000		
B5.2.5	House wire PVC 2.5mm2 (green/yellow)		Per roll 100m	1 000		
B5.3.1	**House wire PVC4mm2 (Red)**		Per roll 100m	1 000		
B5.3.2	House wire PVC 4mm2 (white)		Per roll 100m	1 000		
B5.3.3	House wire PVC 4mm2 (blue)		Per roll 100m	1 000		
B5.3.4	House wire PVC 4mm2 (black)		Per roll 100m	1 000		
B5.3.5	House wire PVC 4mm2 (green/yellow)		Per roll 100m	1 000		
B5.4.1	**House wire PVC 10mm2 (Red)**		Per roll 100m	1 000		
B5.4.2	House wire PVC 10mm2 (white)		Per roll 100m	1 000		
B5.4.3	House wire PVC 10mm2 (blue)		Per roll 100m	1 000		
B5.4.4	House wire PVC 10mm2 (black)		Per roll 100m	1 000		

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NAME OF FIRM			

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ITEM NO.	DESCRIPTION	MANUFACTURE NAME	UNIT	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B5.4.5	House wire PVC 10mm2 (green/yellow)		Per roll 100m	1 000		
B5.5.1	**House wire PVC 16mm2 (Red)**		Per roll 100m	1 000		
B5.5.2	House wire PVC 16mm2 (white)		Per roll 100m	1 000		
B5.5.3	House wire PVC 16mm2 (blue)		Per roll 100m	1 000		
B5.5.4	House wire PVC 16mm2 (black)		Per roll 100m	1 000		
B5.5.5	House wire PVC 16mm2 (green/yellow)		Per roll 100m	1 000		

B6. SILICONE FLEXIBLE CABLES

ITEM No	DESCRIPTION	Cores	Size mm²	Out Diameter mm	Nominal Amps	Unit p/m	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B6.1	Silicone Flexible cable	3	2.5	9.7	62	Each	12000m		

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B7 SILICONE CONTROL CABLE

ITEM No	DESCRIPTION	MANUFACTURE	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B7.1	Silicone Control cable 1.5mm		12000meters		

B8. SURFIX CABLE

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B8.1	Surfix cable 2.5mm		12000m		

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B9. FLAT TWIN AND EARTH CABLE

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B9.1	Flat twin and earth cable 2.5mm		12000metre		

B10. NITRILE TRAILING CABLE

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B10.1	Nitrile trailing cable 16mm		12000m		

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B10.2	Nitrile trailing cable 25mm		12000m		

B11. CABTYRE CABLE FLEXIBLE WIRING

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B11.1	Cabtyre cable flex 1.5mm		12000m		
B11.2	Cabtyre cable flex 2.5mm		12000m		

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B12. CABLE DUCTS(CABLEFLEX)

ITEM No	DESCRIPTION	Size mm	Length m	Outside ø mm	Inside ø mm	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B12.1	Comply with SABS in respect of SANS (SANS61386-24) entitled Conduit systems for cable management Part 24 Upper Woking temperature of 100° Double wall construction with knock on coupling	110	6	110	95	100		
B12.2		160	6	160	137	100		

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B13. CABLE CLAMPS – CAB-STRUT CHANNEL

ITEM No	DESCRIPTION	Clamp size (mm)	Bolt size	Bø (mm)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B13.1	Clamp and bolt must be galvanized.	16	M6	16	500		
B13.2		26	M6	26	500		
B13.3		46	M8	46	500		
B13.4		66	M8	66	500		
B13.5		78	M8	78	500		

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B14. CABLE GLANDS AND RUBBER SHROUDS ADJUSTABLE (Nickel Plated Brass)

ITEM No	DESCRIPTION	Gland size	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B14.1	• Must comply with SANS 1213. • Adjustable-fits any size armouring. • Gearbox Action to ensures unprecedented clamping force. • Loose Cone to ensures best armour grip. • To be completely re-usable. • To be adaptable to other thread types. • To be convertible for use with unarmoured cable. • Supplied complete with locknut & shroud	1		500		
B14.2		2		500		
B14.3		3		500		
B14.4		4		500		
B14.5		5		500		

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B15. HEAT-SHRINK CABLE BREAKOUT BOOT

ITEM No	DESCRIPTION	Boot size (mm²)	Conductor size (mm²)	Type	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B15.1	To be manufactured from a high-quality cross-linked polymer compound. Suitable for terminating and sealing of low voltage cables, plastic, paper and rubber. Breakouts to be internally coated with a hot melt adhesive to prevent the ingress of moisture into the crutch are. Operating temperature range -30°C to +80°C. Good weather ability and UV resistance	16 x2C	1-25	EN2 30/8		200		
B15.2		16 x4C	6-35	EN4 35/15		200		
B15.3		35&70x 4C	25-150	EN4 60/25		200		
B15.4		95x4C	70-185	EN4 75/30		200		

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B16. HEAT-SHRINKABLE CABLE END CAPS

ITEM No	DESCRIPTION	Inside Diameter (mm)	Length (mm)	Width (mm)	Type	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B16.1	Endcaps to be manufactured from a high-quality, cross-linked compound of polyolefin. The internal surface of the end cap is coated with hot melt thermoplastic adhesive, which retains the flexible properties after the shrinking process, producing a water-tight seal. Operating temperature must be between -55C to 110°C. Colour must be black. Shrink temperature must be 120°C	55	134	3.9	55/25	200		
B16.1		75	170	3.33	75/32	200		

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B17. STAINLESS STEEL STRAPPING & BUCKLES

ITEM No	DESCRIPTION	Grade	Thickness (mm)	Length (mm)	Width (mm)	Type	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B17.1	Stainless Steel Strapping	307	0.75	30	19		500		
B17.2	Stainless Steel Buckles Jaw Type / Grade-304 Width-19mm	304			19	Jaw	500		

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B18. FERRULES (For Stranded copper conductor)

ITEM No	DESCRIPTION	Inside diameter (mm)	Outside diameter (mm)	Length (mm)	Nominal Sleeve (mm²)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B18.1	Ferrules Crimping CU	3.4	5.3	17.7	6	500		
B18.2	Ferrules Crimping CU	4.4	6.3	19.8	10	500		
B18.3	Ferrules Crimping CU	5.5	7.6	22	16	500		
B18.4	Ferrules Crimping CU	8.2	10.7	27.5	35	500		
B18.5	Ferrules Crimping CU	11.7	15	34.4	70	500		
B18.6	Ferrules Crimping CU	13.5	17.4	38.6	95	500		
B18.7	Ferrules Crimping CU	15.5	19.8	42.9	120	500		
B18.8	Ferrules Crimping CU	17	22	48.1	150	500		
B18.9	Ferrules Crimping CU	19	24.4	53.6	185	500		

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B19. CABLE LUGS CRIMPING (For Stranded copper conductor/cable)

ITEM No	DESCRIPTION	Nominal Lug size (mm²)	Stud size (mm)	Barrel length (mm)	Length (mm)	Hole (mm)	Width (mm)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B19.1	Lugs Crimping CU 6mm	6	10	11	19	7.5	15	500		
B19.2	Lugs Crimping CU 10mm	10	10	11	19	7.5	15	500		
B19.3	Lugs Crimping CU 16mm	16	8	12	18	7.5	13	500		
B19.4	Lugs Crimping CU 16mm	16	10	12	20	7.5	15	500		
B19.5	Lugs Crimping CU 16mm	16	12	12	25	10.5	18	500		
B19.6	Lugs Crimping CU 35mm	35	10	15	19	9	16	500		

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ITEM No	DESCRIPTION	Nominal Lug size (mm²)	Stud size (mm)	Barrel length (mm)	Length (mm)	Hole (mm)	Width (mm)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B19.7	Lugs Crimping CU 35mm	35	12	15	22	10	18	500		
B19.8	Lugs Crimping CU 70mm	70	12	18	24	10	20	500		
B19.9	Lugs Crimping CU 95mm	95	10	21	26	11	22	500		
B19.10	Lugs Crimping CU 95mm	95	12	21	21	12	22	500		
B19.11	Lugs Crimping CU 120mm	120	12	23	28	13	26	500		
B19.12	Lugs Crimping CU 150mm	150	12	26	28	12	28	500		
B19.13	Lugs Crimping CU 185mm	185	12	27	33	16	32	500		

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B20. CABLE TIES – BLACK

ITEM No	DESCRIPTION	width (mm)	Length (mm)	Bundle Ø Max	N (mm)	Material (mm)	Packaging Per bag	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B20.1	Cable Ties T18R	2.5	100	22	80	PA66W	100	1000		
B20.2	Cable Ties T30R	3.5	150	35	135	PA66W	100	1000		
B20.3	Cable Ties T50R	4.6	200	50	225	PA66W	100	1000		
B20.4	Cable Ties T120R	7.6	387	100	535	PA66W	100	1000		

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B21. WIPING METAL (Solder Alloy)

ITEM No	DESCRIPTION	Grade	S'n	S,b	Max Impurities	Melting range (Celsius)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B21.1	Wiping metal 30%	SABS S5	30%	1.0-1.7%	0.25%	185-248	100		

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B22. PVC ELECTRICAL INSULATION TAPE

ITEM No	DESCRIPTION	Width (mm)	Length (mm)	Thickness (mm)	Dielectric Strength	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B22.1	To be the highest quality PVC insulated tape, unsurpassed strength and elasticity to ensures a neat, safe and easy wrap. Weather resistance with a long term adhesion. To be supplied in useful re-usable plastic containers to keep tape clean and free of fault causing filings. Colours red, blue, yellow, black and green	19	20	0.2	10kV	200			

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B23. PRE-CAST PANELS (VIBRECRETE)

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B23	144Omm(L)x300mm(W)x40-60mm(T)		10 Slabs		

B24. BARRIER TAPE

Item no.	Description/ specification	Colour	Length (m)	Width (mm)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B24.1	Red and White plastic Barrier Tape	Red & White	500m per roll	75mm	50 rolls		

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B25. ELECTRICAL CABLE WARNING TAPE (DANGER TAPE)

Item no.	Description/ specification	Colour	Length (m)	Width (mm)	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
B25.1	Orange or Yellow plastic without adhesive with a warning message "ELECTRIC CABLE BELOW"	Orange or Yellow	500m per roll	150mm	50 rolls		

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SECTION C: OVERHEAD CONDUCTORS, MATERIAL AND ACCESSORIES

C1. AERIAL BUNDLE CONDUCTOR CABLES

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C1.1	**LOW VOLTAGE AERIAL BUNDLE CONDUCTOR CONDUCTORS**				
C1.1.1	25mm x 2 core		8 000m		
C1.1.2	70mm2 x 3 + 25m Aux + 54.6mm Neutral		8 000m		
C1.1.3	95mm2 x 3 + 25m Aux + 54.6mm Neutral		8 000m		
C1.2	**MEDIUM VOLTAGE AERIAL BUNDLE CONDUCTOR CONDUCTORS**				
C1.2.1	70mm2 , 3 core MV ABC		8 000m		

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C2. ACSR MINK (63/11) OVERHEAD UNGREASED CONDUCTOR

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C2.1	ACSR MINK (63/11) OVERHEAD UNGREASED CONDUCTOR		8 000m		

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C3. ACSR 6/1/4.72mm HARE OVERHEAD UNGREASED CONDUCTOR

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25 (Per Meter)	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C3.	ACSR 6/1/4.72mm HARE OVERHEAD UNGREASED CONDUCTOR		8 000m		

C4 AERIAL BUNDLE CONDUCTOR ACCESSORIES

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C4.1	ABC Low Voltage Neutral Strain Assembly – Type EAS 54-10	500		

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C4.2.	ABC Low Voltage Suspension Clamp Assembly – Type ES 54-10	500		
C4.3.	Airdac Conductor Consumer Service Strain Clamp suitable for 4, 10 and 16mm^2 airdac cables	500		
C4.4. ABC FUSE SWITCH DISCONNECTORS				
C4.4.1	Fuse switch 160A, 3 Phase Size NH00 Fuses 500V	100		
C4.4.2	Fuse switch 400A, 3 Phase Size NH2 Fuses 500V	100		
AERIAL BUNDLE INSULATED PIERCING CONNECTORS				
C4.5.	ABC Insulated Piercing Connectors – Type PC1WP1F	1000		
C4.6.	ABC Insulated Piercing Connectors – Type BC-21F	1000		
C4.7.	ABC Insulated Piercing Connectors – Type PC3WP2F	1000		
C4.8.	ABC Insulated Piercing Connectors - Type PC6WP2F	1000		
C4.9. ABC INSULATED COMPRESSION JOINTS – TYPE MJPT				

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C4.9.3.1	MJPT insulated joint size 25mm^2 - 25mm^2	1000		
C4.9.3.2	MJPT insulated joint size 35mm^2 - 35mm^2	1000		
C4.9.3.3	MJPT insulated joint size 50mm^2 - 50mm^2	1000		
C4.9.3.4	MJPT insulated joint size 70mm^2- 70mm^2 ;	1000		
C4.9.3.5	MJPT insulated joint size 95mm^2 - 95mm^2	1000		
C4.9.3.6	MJPT insulated joint size 120mm^2- 120mm^2	1000		
C4.9.3.7	MJPT insulated joint size 54.6mm^2- 54.6mm^2;	1000		
C4.10. ABC INSULATED BI-METAL COMPRESSION LUGS – TYPE CPTAU				
C4.10.1	CPTAU Compression lugs size 25mm^2 (conductor)x 16mm^2 (hole)	1000		

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C4.10.2	CPTAU Compression lugs size 35mm^2 (conductor)x 16mm^2 (hole)	1000		
C4.10.3	CPTAU Compression lugs size 50mm^2 (conductor)x 16mm^2 (hole)	1000		
	CPTAU Compression lugs size 70mm^2 (conductor)x 16mm^2 (hole)	1000		

C5 OVERHEAD LINES ACCESSORIES

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C5.1. PORCELAIN PIN INSULATOR				
C5.1.1	11kV /10kN porcelain pin insulator with a creepage distance of 325mm	50		
C5.2. LINE POST INSULATOR				

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C5.2.1	22kV / 4kN Porcelain line post insulator with a creepage distance of 630mm.	50		
C5.3. STAY STRAIN INSULATOR				
C5.3.1	Fibreglass 11kV / 70kN stay strain insulator with a creepage distance of 460mm	50		
C5.3.2	Fibreglass 11kV / 70kN stay strain insulator with a creepage distance of 765mm			
C5.4. SILICONE LONG ROD INSULATOR				
C5.4.1	11kV / 70kN Silicone long rod insulator with a creepage distance of 400mm	50		

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS
C5.5. PORCELAIN DROPOUT				
C5.5.1	Complete porcelain dropout unit with line connection terminals & support structure connection. Unit must be rated 11kV/22kV with a creepage distance of 560mm	100		
C5.6. SILICONE DROPOUT				
C5.6.1	Complete silicone dropout unit with line connection terminals & support structure connection. Unit must be rated 11kV/22kV with a creepage distance of 750mm.	100		

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C5.7. DROPOUT FUSE TUBE				
C5.7.1	100A dropout fuse tube made of brass & silver plating. Fuse tube should be suitable to be fitted into the Porcelain or Silicone dropout unit.	100		
C5.8. OVERHEAD LINE GALVANIZED STEEL A FRAME				
C5.8.1	Galvanized steel A frame suitable for mounting on a wooden transmission pole. Mounting shall be by means of a bolt and nut	50		

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C5.9. STAY RODS				
C5.9.1	Galvanized Non-adjustable stay rods size M20 x 2 meters	100		
C5.9.2	Galvanized Adjustable stay rods size M20 x 2.4 meters	100		
C5.10. BASE PLATE FOR NON-ADJUSTABLE STAY RODS				
C5.10.1	Galvanized slotted base plate for non-adjustable stay rods. Shape: Octagonal with sizes 340 x 375 x 6mm	100		
C5.11. GALVANISED STEEL STAY WIRE				
C5.11.1	1100MPA galvanized stay wire, 5 strands of 4.06mm with a weight of 0.5065Kg/m	100		
C5.12. GALVANISED D SHACKLE				

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ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
C5.12.1	70kN D shackle pin type	100		
C5.12.2	120kN D shackle bolt type	100		
C5.13. GUY GRIP FOR STAY WIRE				
C5.13.1	Brown stranded guy grip dead end for galvanized stay wire. 5 strands x 4mm	100		

SECTION D: STREETLIGHTING, MATERIAL AND ACCESSORIES

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D1	**Streetlight and transmission Poles**				
D1.1	**Galvanized Streetlight Poles**				

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D1.1.1	Streetlight Galvanised poles 4.5m with spigot		200		
D1.1.2	Streetlight Galvanised poles 4.5m without spigot		200		
D1.1.3	Streetlight Galvanised poles 5.7m with spigot		200		
D1.1.4	Streetlight Galvanised poles 5.7m without spigot		200		
D1.1.5	Streetlight Galvanised poles 7.2m with spigot		200		
D1.1.6	Streetlight Galvanised poles 7.2m without spigot		200		
D1.1.7	Streetlight Galvanised poles 9m with spigot		200		
D1.1.8	Streetlight Galvanised poles 9m without spigot		200		
D1.1.9	Streetlight Galvanised poles 11m with spigot		200		
D1.1.10	Streetlight Galvanised poles 11m without spigot		200		
D1.1.11	Streetlight Galvanised poles 11,5m with spigot		200		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D1.1.12	Streetlight Galvanised poles 11,5m without spigot		200		
D1.1.13	Streetlight Galvanised poles 14m with spigot		200		
D1.1.14	Streetlight Galvanised poles 14m without spigot		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D1.2	**Poles Transmission**				
D1.2.1	Poles Transmission 7m, (top diameter 100 –120mm)		200		
D1.2.2	Poles Transmission 9m, (top diameter 160 –180mm)		200		

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D1.2.3	Poles Transmission 11m, (top diameter 160 - 180mm)		200		
D1.2.4	Poles Transmission 14m, (top diameter 180 –200mm)		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D1.3	**Poles Concrete**				
D1.3.1	Poles Concrete 4.5m with spigot		200		
D1.3.2	Poles Concrete 4.5m without spigot		200		
D1.3.3	Poles Concrete 5.7m with spigot		200		
D1.3.4	Poles Concrete 5.7m without spigot		200		
D1.3.5	Poles Concrete 7.2m with spigot		200		
D1.3.6	Poles Concrete 7.2m without spigot		200		
D1.3.7	Poles Concrete 9m with spigot		200		
D1.3.8	Poles Concrete 9m without spigot		200		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D1.3.9	Poles Concrete 12m with spigot		200		
D1.3.10	Poles Concrete 12m without spigot		200		

D2. STREELIGHT BRACKET GALVANISED SLEEVE

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D2.1	**Streetlight Bracket Galvanised Sleeve (76mm Spigot)** Sleeve - 300mm x 3mm x 88mm outside diameter + welded cap Pipe welded to the side with a 10° rake - 1.5m x 43mm Galvanised bolts staggered for clamping 4 x M12		200		
D2.2	**OUTREACH ARMS**				
D2.2.1	Streetlight Bracket Galvanised Sleeve (42mm Spigot)- 2.5M Double caved outreach arms		200		

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ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D2.2.2	Streetlight Bracket Galvanised Sleeve (42mm Spigot) – 2.5M single caved outreach arm		200		
D2.2.3	Streetlight Bracket Galvanised Sleeve (42mm Spigot) – 2M double caved outreach arm		200		
D2.2.4	Streetlight Bracket Galvanised Sleeve (42mm Spigot) – 2M single caved outreach arm		200		

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D3. LIGHT EMMITING DIODE (LED) STREETLIGHT AND LUMINAIRES

ITEM No	DESCRIPTION	Watt	Voltage	No of LED's	Current mA	Lumens	Colour Rendering	Colour Temp	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D3.1	Light Emitting Diode Street light	37	230	16	700	5157	>Ra70	4000K	100		
D3.2	Light Emitting Diode Street light	70	230	32	700	10235	>Ra70	4000K	100		
D3.3	Light Emitting Diode Street light	104	230	48	700	15157	>Ra70	4000K	100		
D3.4	Light Emitting Diode Street light	138	230	64	700	20345	>Ra70	4000K	100		
D3.5	Light Emitting **D**iode Street light	276	230	128	700	40078	>Ra70	4000K	100		

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ITEM No	DESCRIPTION	Watt	Voltage	No of LED's	Current mA	Lumens	Colour Rendering	Colour Temp	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D3.6	Light Emitting Diode Floodlight	216	230	64	1000	27980	>Ra70	4000K	100		
D3.7	Light Emitting Diode Floodlight	495	230	144	1000	59320	>Ra70	4000K	100		
D3.8	Light Emitting Diode Floodlight	990	230	288	1000	118640	>Ra70	4000K	100		

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D4. LIGHT EMITTING DIODE POST TOP LUMINAIRE

ITEM No	DESCRIPTION	Watt	Voltage	No of LED's	Current mA	Lumens	Colour Rendering	Colour Temp	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D4.1	LED Post top Complete	37	230	16	700	5112	>Ra70	4000K	100		
D4.2	LED Post Top Retrofit	37	230	16	700	5112	>Ra70	4000K	100		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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D4.3 LIGHT EMITTING DIODE POST TOP LUMINAIRE

ITEM No	DESCRIPTION	Unit	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D4.3.1	**Option 1**	**Each**	100		
D4.3.1	**Option 2**	**Each**	100		

D4.4 BULKHEAD FITTINGS LED

ITEM No	Watt	Size (w x l x h) mm	lumens	Unit	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D4.4.1	18	152 x 355 x 130	2400	each	100		
D4.4.2		Wire guard		each	100		

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D4.4.3	35	320 x 440 x 217	5460	each	100		
D4.4.4		Wire guard		each	100		

D4.5 DOWN LIGHTER LED

ITEM No	Watt	Colour Temp	Lumen	Unit	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D4.5.1	10	4000K	1000	Each	100		
D4.5.2	19	4000K	2000	Each	100		
D4.5.3	28	4000K	3000	Each	100		

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D4.6 BULKHEAD ROUND LED

ITEM No	Voltage VAC	Frequency Hz	Unit	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D4.6.1	**230**	**50**	**Each**	100		

D5 SQUARE LED DOWN LIGHT

ITEM No	Watt	Colour Temp	Lumens	Cut Out mm	Diameter mm	Unit	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D5.1	6	4000K	390	105	120	Each	100		

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D6. DAY/NIGHT SWITCH

ITEM No	DESCRIPTION	Max Switching capacity	Voltage(V)	Width(mm)	Height (mm)	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D6.1	To be convenient for wall or any other flat surface mounting. Watertight junction box to be equipped with strip connectors, brackets, six side inlets and one rear inlet to ensure installation versatility. Side inlets to be M20 treaded with re-insertable knock outs	16	230	87	87	45.5		
D6.2	To be suitable for mounting inside enclosures such as substations, electrical boxes and streetlight luminaires. Equipped with M20 entry, terminal block and 300mm wire leads. Fixing the daylight switch may be either by the enclosed bracket or by securing a 20mm diameter hole with the enclosed locknut together with rubber seals.	16	230	32	68.8			

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NAME OF FIRM			

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D7. BOWL FITTINGS & GALLERIES & GALL

ITEM No	DESCRIPTION	Bowl size	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D7.1	Bowl: Opal Glass bowl (6" & 8") Colour: White Class: II IP Rating: 44	**6"**			
D7.2		**8"**			
		Gallery size			
D7.3		**6"**			
D7.4		**8"**			

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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D8. NON-SPARKING END CONNECTORS AND INSULATING SLEEVES

ITEM No	DESCRIPTION	Conductor size	Internal(hole) diameter(mm2)	Length (mm)	Height(mm)	Allen key size	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D8.1	The non-sparking end connector shall be made from brass and nickel with a screw on top that can only be opened or tightened with an Alen key. The unit to be supplied complete with an insulating sleeve	2 x 16mm2	10mm2	13	13	4	500		
D8.2		2 x 25mm2	13.5mm2	15	19	4	500		

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D9. LED TUBE FITTINGS

ITEM NO	Description	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D9.1.1	LED double vapour fitting suitable for 2 x 2ft LED tubes. Dimensions of the fittings must be 675mm (L) x 113mm(W)x 63mm(H) [2ft]	50		
D9.1.2	IP rating LED double vapour fitting suitable for 2 x 4ft LED tubes. Dimensions of the fittings must be 1300mm(L)x113mm(W)x 63mm(H) [4ft]	50		
D9.1.3	Input Voltage LED double vapour fitting suitable for 2 x 5ft LED tubes. Dimensions of the fittings must be 1600mm(L) x 113mm(W) x 63mm(H) [5ft]	50		

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D10.LED TUBES

ITEM No		Watt	Colour Temp	Lumens	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D10.1	LED tube suitable for a 2ft LED fitting	9W	600k	900	100		
D10.2	LED tube suitable for a 4ft LED fitting	18W	600-6500k	900	100		
D10.3	LED tube suitable for a 5ft LED fitting	22W	600-6500k	900	100		

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D.11 SOLAR STREETLIGHTS

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
D11.1	Retrofit solar		10		
D11.2	All in one solar post top		10		
D11.3	Al in one solar luminaire		10		
D11.4	Solar high mast		10		
D11.5	Fixed external access solar panel lighting mask		10		
D11.6	LED streetlighting luminaires		10		
D11.7	LED floodlight luminaires		10		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

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SECTION E: DISTRIBUTION & METERING KIOSKS, POLE MOUNTED & SURFACE MOUNTED DISTRIBUTION BOXES AND ACCESSORIES

E1. METERING & DISTRIBUTION KIOSKS

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
E1.1	**POLYETHYLENE KIOSK**				
E1.1.1	Polyethylene Distribution Stubby 4way		30		
E1.1.2	Polyethylene Distribution Stubby 6way		30		
E1.1.3	Polyethylene Distribution Stubby 9way		30		
E1.1.4	Polyethylene Distribution Stubby 12way		30		
E1.1.5	Polyethylene Distribution Stubby 4-6way root		30		

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ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
E1.1.6	Polyethylene Distribution Stubby 9-12way root		30		
E1.1.7	Polyethylene Distribution Stubby 4way top with polyethylene locking pin		30		
E1.1.8	Polyethylene Distribution Stubby 6way top with polyethylene locking pin		30		
E1.1.9	Polyethylene Distribution Stubby 9way top with polyethylene locking pin		30		
E1.1.10	Polyethylene Distribution Stubby 12way top with polyethylene locking pin		30		

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CAPACITY		DATE	
NAME OF FIRM			

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E1.2 STEEL STUBBY (3CR 12)

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
E1.2.1	6 WAY Stubby –3CR123		30		
E1.2.2	8 WAY Stubby –3CR123		30		
E1.2.3	12 WAY Stubby –3CR123		30		

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			

E1.3 LOW VOLTAGE VANDAL PROOF METERING KIOSK

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
E1.3	**VANDAL PROOF METERING KIOSK**				
E1.3.1	6 Way Vandal proof metering kiosk		10		
E1.3.2	12 Way Vandal proof metering kiosk		10		
E1.3.3	18 Way Vandal proof metering kiosk		10		
E1.3.4	24 Way Vandal proof metering kiosk		10		
E1.3.5	9 Way Surface mounted vandal proof kiosk		10		
E1.3.6	9 Way Pole mounted Vandal proof kiosk		10		
E1.4	**VANDAL PROOF KIOSK CONCRETE PLINTH**				
E1.4.1	6 Way Concrete Plinth		10		
E1.4.2	12 Way Concrete Plinth		10		
E1.4.3	18 Way Concrete Plinth		10		
E1.4.4	24 Way Concrete Plinth		10		
E1.5	**POLE MOUNTED DISTRIBUTION BOXES(POLYETHYLENE)**				
E1.5.1	2 WAY		10		

ITEM No	DESCRIPTION	MANUFACTURER NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
E1.5.2	3 WAY		10		
E1.5.3	4 WAY		10		
E1.5.4	12 WAY		50		

SECTION F: PADLOCKS, LOCKING MECHANISMS AND ACCESSORIES

F1. NYLON PADLOCKS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F1.1	Padlocks shall be compatible to the existing approved key alike, currently used by Stellenbosch Municipality. Locks shall be supplied without keys. Impressed marking shall be done on the one side of the locks. This marking side shall be divided in two blocks for the indent names. Manufacturer and the letters “STBMUN” sizes in and indent depth for easy reading in the same colour as the colour of padlock; Key system is Key no 1: Red Green Blue Key no 2: Green Blue Key no 3: Green				

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
	Key no 4: Yellow				
F1.1.1	**Red** padlocks shall be constructed of a heavy duty nylon compound with a smooth finish. The width shall be 45mm with an inside shackle length of 30mm when the lock is closed and a shackle thickness of 6mm. The barrels of the locks shall be non-corrosive with a stainless hardened steel shackle		400		
F1.1.2	**Blue** padlocks shall be constructed of a heavy duty nylon compound with a smooth finish. The width shall be 45mm with an inside shackle length of 30mm when the lock is closed and a shackle thickness of 6mm. The barrels of the locks shall be non-corrosive with a stainless hardened steel shackle		400		
F1.1.3	**Green** padlocks shall be constructed of a heavy duty nylon compound with a smooth finish. The width shall be 45mm with an inside shackle length of 30mm when the lock is closed and a shackle thickness of 6mm. The barrels of the locks shall be non-corrosive with a stainless hardened steel shackle		400		
F1.1.4	**Yellow** padlocks shall be constructed of a heavy duty nylon compound with a smooth finish. These padlocks shall have the same design as the red blue and green padlocks. The width shall be 50mm with an inside shackle of 30mm when the lock is closed and a shackle thickness of 8mm. The barrels of the locks shall be non-corrosive with a stainless hardened steel shackle.		400		

F2.HIGH AND SECURITY PADLOCKS WITH CONTROLLED AND SECURE 6-PIN "EDGE" KEYS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
	PADLOCKS TO BE USED BY ELECTRICITY DEPARTMENT				
F2.1	**Level "A" Padlocks for Switching on High & Medium voltage Controlled and secured 6-Pin "Edge" keys:**				
F2.1.1	Padlocks are aluminium red 44x8x28mm with boron short shackle engraved		200		
F2.1.2	Padlocks are aluminium red 44x8x50mm with boron long shackle engraved		200		
F2.1.3	Padlocks laminated 54x8mm with boron shackle engraved		200		
F2.1.4	Padlocks laminated & Shrouded 54x8mm with boron shackle engraved		200		
F2.1.5	Padlock c/w bracket 73mm wide with 9mm boron shackle		200		
F2.2	**Level "B" Padlocks for Metering High & Medium voltage Controlled and secured 6-Pin "Edge" keys:**				

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.2.1	Padlocks are aluminium black 44x8x28mm with boron short shackle engraved		200		
F2.2.2	Padlocks are aluminium black 44x8x50mm with boron long shackle engraved		200		
F2.2.3	Padlocks laminated 54x8mm with boron shackle engraved		200		
F2.2.4	Padlocks laminated & Shrouded 54x8mm with boron shackle engraved		200		
F2.2.5	Padlock c/w bracket 73mm wide with 9mm boron shackle. Latch cylinder core only KAMK to existing key		200		
F2.3	**Level "C" Low Voltage Controlled and secured 6-Pin "Edge" keys:**				
F2.3.1	Padlocks are aluminium yellow 44x8x28mm with boron short shackle engraved KAMK		200		
F2.3.2	Padlocks are aluminium yellow 44x8x50mm with boron long shackle engraved KAMK Code:		200		
F2.3.3	Padlocks laminated 54x8mm with boron shackle KAMK engraved KAMK Code:		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.3.4	Padlocks laminated & Shrouded 54X8mm with boron shackle engraved KAMK Code:		200		
F2.3.5	Padlock c/w bracket 73mm wide with 9mm boron shackle KAMKCode: Latch cylinder core only KAMK Code:		200		
F2.4	**Level "D" Metering Security P secured 6-Pin "Edge" keys:**				
F2.4.1	Padlocks are aluminium green 44x8x28mm with boron short shackle engraved KAMK Code:		200		
F2.4.2	Padlocks are aluminium green 44x8x50mm with boron long shackle engraved KAMK Code:		200		
F2.4.3	Padlocks laminated 54x8mm with boron shackle KAMK engraved Code:		200		
F2.4.4	Padlocks laminated & Shrouded 54x8mm with boron shackle engraved KAMK Code:		200		
F2.4.5	Padlock c/w bracket 73mm wide with 9mm boron shackle KAMK Code: Latch cylinder core only KAMK		200		
	PADLOCKS TO BE USED BY WATER WORKS DEPARTMENT				

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.5	**Water Works - Gates**				
F2.5.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.5.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.5.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.5.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.5.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.6	**Water Works - Reservoirs**				
F2.6.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.6.2	Padlocks Laminated Shrouded Black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.6.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.6.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.6.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.7	**Water Works - Pumps**				
F2.7.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.7.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.7.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.7.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.7.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.8	**Paradyskloof WTP - Paradyskloof (Existing Key Ref: "FF1/UM")**				
F2.8.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.8.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.8.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.8.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.8.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.9	**Paradyskloof WTP –Idas Valley (Existing Key Ref: "FF2/UM")**				
F2.9.1	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.9.2	Padlock 73mm round with 10mm hidden boron shackle c/w		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
	bracket KAMK Code: PIS0010117				
F2.9.3	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.9.4	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.9.5	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.9.6	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.9.7	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.9.8	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.9.9	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.10	**Bosbou - Bosbou (Existing Key Ref:**				
F2.10.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.10.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.10.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.10.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.10.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.11	**Bosbou –Stores (Existing Key Ref**				
F2.11.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.11.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.11.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.11.4	Padlocks Laminated black 67x11x23x35mm with boron short shackle KAMK engraved code: PIS0024020		200		
F2.11.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.12	**Bosbou – Container (Existing Key**				
F2.12.1	Padlocks Laminated black 54x8x23x30mm with boron short shackle KAMK engraved code:PIS0024004		200		
F2.12.2	Padlocks Laminated Shrouded black 54x8x23x20mm with boron shackle engraved KAMK code:PIS0022004		200		
F2.12.3	Padlock 73mm round with 10mm hidden boron shackle c/w bracket KAMK Code: PIS0010117		200		
F2.12.4	Padlocks Laminated black 67x11x23x35mm with boron		200		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
	short shackle KAMK engraved code: PIS0024020				
F2.12.5	Padlocks Laminated Shrouded black 67x11x23x20mm with boron shackle engraved KAMK code: PIS0022012		200		
F2.13	**High Security Padlock Accessories**				
F2.13.1	**Adjustable cable locks for ladders Code: PSI00300002** Set of two, keyed alike nylon covered braided s/s cable 10x 1800mm		45		
F2.13.2	**Lubricant Code:PSI0010088** Dry PTFE padlock lubricant Aerosol 150ml		100		
F2.13.3	**Heavy Duty Bar Hasp Code:PIS0010101** Flat Bar hasp heavy duty hardened steel 180mm straight		30		
F2.13.4	**Heavy Duty Hasp Single Swivel Code: PIS0027014** Bar hasp heavy duty hardened steel 160mm		30		
F2.13.5	**Heavy Duty Hasp Double Swivel Code: PIS0010114** Bar hasp heavy duty hardened steel 160mm		30		
F2.13.6	**Heavy Duty Barrel Bolt Code:PIS0010116** Hardened steel 180mm straight		30		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F2.13.7	**High Security Chain Code:PIS0027011** Hardened steel 10 x 1000m		30		
F2.14	**SAFETY LOCKOUT EQUIPMENT**				
F2.14.1	**Safety Padlock (Private padlocks) Individual Personal worn** **Lockout Carry kits c/w twelve nylon private padlocks with stainless steel shackles 35x4,7x38mm RED KAMKKR per** **set engraved padlocks & keys code: PIND001007/31** • Lockout Carry Bracket • Nylon padlocks 35x4.76x38mm c/w s/s shackle 316 with 6-pin tumbler • Chemical, temperature extremes, and UV stable		30		
F2.14.2	**aluminum safety hasps 6mm red code: PIS0010019** • 25x6 inside jaw diameter, holds up to 6 padlocks • Spark resistant aluminum		50		
F2.14.3	**aluminum safety hasps 6mm red code: PIS0010020** • 38x6 inside jaw diameter,		50		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
	holds up to 6 padlocks • Allows Lockout by multiple workers at each lockout point • Spark resistant aluminum				
F2.14.4	**Circuit Universal Breaker Miniature Code: PIS0010107**		100		
F2.14.5	**Lockout Standard Size Breaker Toggles Code: PIS0010047**		100		
F2.14.6	**Lockout Wide Or Tall Breaker Toggles Code: PIS0010046**		100		

F3. LOCKOUT PADLOCKS FOR ARTISANS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F3.1	**Set of 12 nylon padlocks with stainless steel shackles 35 x 4.7 x38mm RED Keyed Alike per set engraved with numbering code** Lockout Carry bracket holds twelve safety padlocks		30		

	near lockout point to help ensure all locations are locked out. Nylon padlocks must have Shackle diameter of 4.76mm. Marine grade 316 stainless steel shackle provides superior corrosion resistance Body width 35mm with 38mm high clearance Key retaining –ensures padlock is not accidentally left unlocked Chemical, temperature extremes, and UV stable Includes English write-on "Danger" and "Pr Keyed Alike different 6-pin tumbler cylinder Laser Engraving allows permanent identification of employee information on padlocks and/or key				

F4. ALUMINIUM SAFTEY HASPS 6MM X 25 GALVANIZED

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F4.1	Allows lockout by multiple workers at each lockout point Control cannot be turned on u removed from hasp Spark resistant aluminum		50		

F5. ALUMINIUM SAFTEY HASPS 6MM X 35MM

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F5.1	38x6 inside jaw diameter, holds up to 6 padlocks. Allows lockout by multiple workers at each lockout point. Control cannot be turned on you removed from hasp Spark resistant aluminum		50		

F6. LOCKOUT TAGS "DO NOT OPERATE" – Customer made – 12/pack

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F6.1	Re-writable tags 146mm high x 80mm wide heavy duty c/w photo ID label Brass grommet 12mm diameter accepts all safety padlocks Durable polyester laminate resists water grease and extreme temperatures Heavy Duty construction Customized (name, department, expected completion)		50		

F7. ADJUSTABLE CABLE LOCKS FOR LADDERS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F7.1	Set of two keyed alike Braided nylon covered s/s cable 10x1800mm		100		

F8. LUBRICANT

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F8.1	Dry PTFE padlock lubricant Aerosol 150ml		50		

F9. HEAVY DUTY HASP

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F9.1	Bar hasp heavy duty hardened steel flat 180x44		50		

F10. HEAVY DUTY HASP 90 DEGREES (Bar hasp heavy duty hardened steel 180x44)

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F10.1	Harden steel single hinge hasp 160mm		50		
F10.2	Harden steel double hinge 197mm		50		

F11. HIGH SECURITY CHAIN

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
F11.1	Hardened steel 10x1000mm		30		

SECTION G: SUBSTATION, MINISUB MATERIAL AND ACCESSORIES

G1. DANGER SIGNS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G1.1	Rectangular MV danger sign		100		
G1.2	Rectangular LV danger sign		100		
G1.3	Triangular danger sign		100		

G2. CONCRETE MINISUB PLINTH

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G2.1	B type minisub concrete plinth with removable side wall	Per unit	100		
G2.2	4 way concrete plinth	Per unit	100		
G2.3	3 way concrete plinth	Per unit	100		

G3 SUBSTATION BATTERIES

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G3.1	Batteries: 11 A/Hr Single Nickel Cadmium vented plate cells to compile sets for: 1 set of 25 cells for 30V		50		
G3.2	Batteries: 29 A/Hr Single Nickel Cadmium vented plate cells to compile sets for: 1 set of 25 cells for 30 V		50		
G3.3	Batteries: 29 A/Hr Single Nickel Cadmium vented plate cells to compile sets for: 1 set of 85 cells for 110 V		50		
G3.4	Batteries: 49 A/Hr Single Nickel Cadmium vented plate cells to compile sets for: 1 set of 85 cells for 110 V		50		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G3.5	Batteries: 105 A/Hr Single Nickel Cadmium vented plate cells to compile sets for: 1 set of 85 cells for 110 V		50		

G4. BATTERY CHARGER UNITS

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G4.1	Free standing 10 A charger complete in cabinet suitable to house a set of 29A/hr batteries Load circuits: 3 x circuit breakers		10		
G4.2	Free standing 20 A charger complete in suitable cabinet. Load circuits: 6 x circuit breakers Separate free-standing cabinet to house a set of **49 A/hr** 110 V batteries. Both cabinets to be supplied as a unit for installation next to each other.		10		

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G4.3	Free standing 20 A charger complete in cabinet suitable to house a set of 29A/hr batteries Load circuits: 6 x circuit breakers		10		

G5. VIRGIN AND REGENERATED TRANSFORMER OIL

ITEM No	DESCRIPTION	MANUFACTURE NAME	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G5.1	Virgin oil – per 210 Lt. New steel drum, sealed.		Min of 5 drums per order		
G5.2	Regenerated oil – per 210 Lt. New steel drum, sealed.		Min of 5 drums per order		

G6. MINIATURE CIRCUIT BREAKERS

Item No.	Description	Poles	Voltage	kA	Curve	MCB width (mm)	Std Pack	Rating Amps	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G6.1 LOW VOLTAGE MINIATURE CIRCUIT BREAKERS – LOW RATING											
G6.1.1	Low Voltage Circuit Breaker **QF-1(26)** Orange Handle Dual Mount **Low Rating**	1	240	6	1	26	12	63	200		
G6.1.2	Low Voltage Circuit Breaker **QF-1(26)** White Handle Dual Mount **Low Rating**	1	240	6	2	26	12	10	200		
G6.1.3	Low Voltage Circuit Breaker **QF-1(26)** White Handle Dual Mount **Low Rating**	1	240	6	2	26	12	20	200		
G6.1.4	Low Voltage Circuit Breaker **QF-1(26)** White Handle Dual Mount **Low Rating**	1	240	6	2	26	12	63	200		
G6.1.5	Low Voltage Circuit Breaker **QF-3(26)** Orange Handle Dual Mount **Low Rating**	3	415	6	2	78	4	63	200		

Item No.	Description	Poles	Voltage	kA	Curve	MCB width (mm)	Std Pack	Rating Amps	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G6.2 LOW VOLTAGE MINIATURE CIRCUIT BREAKERS – HIGH RATING											
G6.2.1	Low Voltage Circuit Breaker **QF-1(26)** Orange Handle Dual Mount **High Rating**	1	240	6	1	26	12	80	200		
G6.2.2	Low Voltage Circuit Breaker **QF-3(26)** Orange Handle Dual Mount **High Rating**	3	415	6	1	78	4	80	200		
G6.2.3	Low Voltage Circuit Breaker **QF-3(26)** Orange Handle Dual Mount **High Rating**	3	415	6	1	78	4	100	200		
G6.2.4	Low Voltage Circuit Breaker **QF-3(26)** White Handle Dual Mount **High Rating**	3	415	6	2	78	4	100	200		
G6.3 MOULDED CASE CIRCUIT BREAKERS											
G6.3.1	Moulded Case Circuit Breaker(Thermal - Magnetic)	G15D	3	15	G1	415	4	100	100		
G6.3.2	Moulded Case Circuit Breaker(Thermal - Magnetic)	G15D	3	15	G1	415	4	125	100		

Item No.	Description	Poles	Voltage	kA	Curve	MCB width (mm)	Std Pack	Rating Amps	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G6.3.3	Moulded Case Circuit Breaker(Thermal - Magnetic)	F15D	3	15	G1	415	4	150	100		
G6.3.4	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G1	415	4	80	100		
G6.3.5	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G1	415	4	100	100		
G6.3.6	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G1	415	4	125	100		
G6.3.7	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G1	415	4	150	100		
G6.3.8	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G4B	415	4	200	100		
G6.3.9	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G4B	415	4	225	100		
G6.3.10	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	J25S	3	25	G4B	415	4	250	100		

Item No.	Description	Poles	Voltage	kA	Curve	MCB width (mm)	Std Pack	Rating Amps	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G6.3.11	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L20B	3	20	G1	415	4	250	100		
G6.3.12	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L20B	3	20	G1	415	4	300	100		
G6.3.13	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L20B	3	20	G1	415	4	400	100		
G6.3.14	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L20B	3	20	G1	415	4	450	100		
G6.3.15	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L20B	3	20	G1	415	4	500	100		
G6.3.16	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L20B	3	20	G1	415	4	600	100		
G6.3.17	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	200	100		
G6.3.18	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	225	100		

Item No.	Description	Poles	Voltage	kA	Curve	MCB width (mm)	Std Pack	Rating Amps	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G6.3.19	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	350	100		
G6.3.20	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	400	100		
G6.3.21	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	450	100		
G6.3.22	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	500	100		
G6.3.23	Moulded Case Circuit Breaker(Hydraulic - Magnetic)	L40B	3	40	G1	415	4	600	100		

G7. ELECTRICAL SWITCHES AND PLUGS – FLUSH MOUNTED

ITEM No	DESCRIPTION	Voltage	Amperes	Lever	Outlets	ESTIMATED QUANTITIES	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G7.1	Switches complete with plate	230	15	1		300		
G7.2	Plug Switch complete with plate	230	16		1	300		
G7.3	Plug Switch complete with plate	230	16		2	300		

G8. EARTH LEAKAGES

Item No.	Description	Type	Poles	kA	Sensitivity	Voltage	Width (mm)	Rating Amps	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G8.1 SINGLE PHASE EARTH LEAKAGES											
G8.1.1	Hydraulic magnet single phase earth leakage. **Mini & DIN rail mount.** Must have a test button. Terminal wire size range 0.75mm2-25mm2.	QF17 A	2(1+N)	6	30mA	230	26	20	200		
G8.1.2		QF17 A	2(1+N)	6	30mA	230	26	40	200		
G8.1.3		QF17 A	2(1+N)	6	30mA	230	26	63	200		
G8.1.4	Hydraulic magnet single phase earth leakage. **Mini rail & surface mount.** Must have a test button. Terminal wire size range 0.75mm2-35mm2.	SF15 A	2(1+N)	6	30mA	230	65	20	200		
G8.1.5		SF15 A	2(1+N)	6	30mA	230	65	40	200		
G8.1.6		SF15 A	2(1+N)	6	30mA	230	65	60	200		
G8.1.7		SF15 A	2(1+N)	6	30mA	230	65	80	200		
G8.2 THREE PHASE EARTH LEAKAGES											
G8.2.1	Hydraulic magnet three phase earth leakage. Mini rail & Surface mount. Must have a test button. Terminal wire size range 0.75mm2-35mm2.	SM36 A	(3+N)	6	250mA	415	117	40	100		
G8.2.2		SM36 A	(3+N)	6	250mA	415	117	60	100		
G8.2.3		SM36 A	(3+N)	6	250mA	415	117	80	100		
G8.2.4		SM36 A	(3+N)	6	250mA	415	117	100	100		

G9. FUSE LINKS (For Oil Switchgears)

ITEM NO	Description	Rated Amps	Rated Voltage	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G9.1.1	Fuse links shall be suitable for use in oil switchgears. Must be fitted with a powerful pyrotechnic strike pin. Must comply with IEC 282-1, BS 2692-1 and ESI standard 12-8. Must be SABS approved	20	11kV	100		
G9.1.2		31.5	12kV	100		
G9.1.3		40	12kV	100		
G9.1.4		63	12kV	100		
G9.1.5		100	11kV	100		

G10. CONNECTOR STRIPS

ITEM NO	Description	ESTIMATED QUANTITIES PER YEAR	UNIT PRICE VAT INCLUSIVE 2024/25	DELIVERY PERIOD FROM DATE OF OFFICIAL PURCHASE ORDER (WEEKS)
G10.1.1	Flexible black polypropylene 12-way connector strip 15Amps	200		
G10.1.2	Flexible black polypropylene 12-way connector strip 30Amps	200		

23. DECLARATION BY TENDERER

I / We acknowledge that I / we am / are fully acquainted with the contents of the conditions of tender of this tender document and that I / we accept the conditions in all respects.

I / We agree that the laws of the Republic of South Africa shall be applicable to the contract resulting from the acceptance of *my / our tender and that I / we elect *domicillium citandi et executandi* (physical address at which legal proceedings may be instituted) in the Republic at:

_____

_____

_____

I / We accept full responsibility for the proper execution and fulfillment of all obligations and conditions devolving in me / us under this agreement as the principal liable for the due fulfillment of this contract.

I / We furthermore confirm I / we satisfied myself / ourselves as to the corrections and validity of my / our tender; that the price quoted cover all the work / items specified in the tender documents and that the price(s) cover all my / our obligations under a resulting contract and that I / we accept that any mistake(s) regarding price and calculations will be at my / our risk.

I / We furthermore confirm that my / our offer remains binding upon me / us and open for acceptance by the Purchases / Employer during the validity period indicated and calculated from the closing date of the bid.

SIGNATURE		NAME (PRINT)	
CAPACITY		DATE	
NAME OF FIRM			
WITNESS 1		WITNESS 2	