



PART: A: INVITATION TO BID:

MBD1

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (POLOKWANE MUNICIPALITY)					
BID NUMBER:	PM20/2022	CLOSING DATE:	26 JANUARY 2023	CLOSING TIME:	10:00
BID DESCRIPTION	APPOINTMENT OF TWO (02) SERVICE PROVIDER FOR THE SUPPLY AND DELIVERY OF LED LIGHTS FOR THE PERIOD OF THREE (03) YEARS				
TOTAL BID PRICE					
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7) or SERVICE LEVEL AGREEMENT OF POLOKWANE MUNICIPALITY.					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (Polokwane Municipality, Civic Centre, corner, Bondenstein and Landdros Mare Street) not later than 10:00 on 26 JANUARY 2023					
An official and compulsory briefing session will not be applicable for this project					
The Bid box is generally open 24 hours, 7 days a week.					
Completed Bid document, fully priced and signed must be sealed in an envelope marked "PM20/2022: APPOINTMENT OF TWO (02) SERVICE PROVIDER FOR THE SUPPLY AND DELIVERY OF LED LIGHTS FOR THE PERIOD OF THREE (03) YEARS"					
Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration.					
Bids documents containing the Conditions of Bid and other requirements in terms of the Supply Chain Management Policy will be downloaded from e-tender Publication Portal at www.etenders.gov.za at no fee.					
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 NUMBER	_____				
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	<input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		<input type="checkbox"/> Yes <input type="checkbox"/> No

[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	<input type="checkbox"/> Yes <input type="checkbox"/> No [IF YES, ANSWER PART B:3]
TOTAL NUMBER OF ITEMS OFFERED		TOTAL BID PRICE	R
SIGNATURE OF BIDDER	DATE	
CAPACITY UNDER WHICH THIS BID IS SIGNED			
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL INFORMATION MAY BE DIRECTED TO:	
MUNICIPALITY	POLOKWANE	CONTACT PERSON	Ms. Mpho Mphahlele and Mr. John Gafane
CONTACT PERSON	Mr. K. Mashiane	TELEPHONE NUMBER	015 290 2449/ 2741
TELEPHONE NUMBER	015 290 2148	FACSIMILE NUMBER	N/A
FACSIMILE NUMBER	N/A	E-MAIL ADDRESS	<u>mphomp@polokwane.gov.za</u> and <u>rawutinig@polokwane.gov.za</u>
E-MAIL ADDRESS	<u>kwenaMa@polokwane.gov.za</u>		

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, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.
- 2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
- 2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

- 3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?
☐ 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 INVALIDNO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

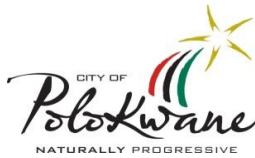
DATE:

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PM20/2022

BID DESCRIPTIONS: APPOINTMENT OF TWO (02) SERVICE PROVIDER FOR THE SUPPLY AND DELIVERY OF LED LIGHTS FOR THE PERIOD OF THREE (03) YEARS

DIRECTORATE: BUDGET AND TREASURY

BUSINESS UNIT: SUPPLY CHAIN MANAGEMENT

Bids are hereby invited for the Appointment of Two (02) Service Provider for the Supply and Delivery of Led Lights for the Period of Three (03) Years

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

The Municipality shall adjudicate and award bids in accordance with B-BBEE status level of contribution on points for contribution, on 80/20 point system, 80 points for the price and 20 points for contribution. Prospective bidders must accept that the bid will be adjudicated, according to the said legislation. Bids will remain valid for 90 (ninety) days.

N.B: NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE (as defined in Regulation 1 of the Local Government: Municipal supply chain Management Regulations)

**MS. THUSO NEMUGUMONI
MUNICIPAL MANAGER
CIVIC CENTRE
LANDDROS MARE STREET
POLOKWANE**

RESPONSIVENESS AND EVALUATION CRITERIA

POLOKWANE MUNICIPALITY WILL CONSIDER NO BID UNLESS ITS MEETS THE FOLLOWING RESPONSIVENESS CRITERIA

- The bid must be properly received in a sealed envelope clearly indicating the description of the service and the bid number for which the bid is submitted.
- The bid must be deposited in the relevant bid box as indicated on the notice of the bid on or before the closing date and time of the bid.
- Bid forms must be completed in full and each page of the bid initialed.
- Submission of a Joint Venture Agreement, where applicable, which has been properly signed by all parties **(In case of JV all parties must submit CSD numbers)**
- Proof of payment of municipal rates and taxes.
- Complies with the requirements of the bid and technical specifications.
- Registered in the relevant professional body in the specific field
- Adheres to Pricing Instructions.
 - a) Policy, the Preferential Procurement Policy Framework Act, and other applicable legislations.
 - b) The Council reserves the right to accept all, some, or none of the bids submitted – either wholly or in part – and it is not obliged to accept the lowest bid.

By submitting this bid, bidder authorises the Council or its delegate(s) to carry out any investigation deemed necessary to verify the correctness of the statements and documents submitted and that such documents reasonably reflect the ability of the Bidder to provide the goods and services required by the Council.

PLEASE NOTE

The Municipal Manager may reject the bid or quote of any person if that person or any of its directors has:

- a) The person committed a corrupt or fraudulent act during the procurement process or in the execution of the contract, or
- b) An official or other role player committed any corrupt or fraudulent act during the procurement process or in the execution of the contract that benefited that person.
- c) Failed to pay municipal rates and taxes or municipal service charges and such rates, taxes and charges are in arrears for more than three months;
- d) Failed, during the last five years, to perform satisfactorily on a previous contract with the Polokwane Municipality or any other organ of State after written notice was given to that bidder that performance was unsatisfactory;
- e) Abused the supply chain management system of the Municipality or have committed any improper conduct in relation to this system;
- f) Been convicted of fraud or corruption during the past five years;
- g) Willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
- h) 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) or has been listed on National Treasury's database as a person prohibited from doing business with public sector.

BID NO: PM20/2022

I/We, the undersigned:

- a) Bid to supply and deliver to Polokwane Municipality all or any of the supplies and to render all the articles, goods, materials, services or the like described both in this and the other Scheduled to this Contract;
- b) Agree that we will be bound by the specifications, prices, terms and conditions stipulated in those Schedules attached to this bid document, regarding delivery and execution;
- c) Further agree to be bound by those conditions, set out in Forms, MBD's, SBD's and the Annexures attached hereto, should this bid be accepted in whole or in part;
- d) Confirm that this bid may only be accepted by the Polokwane Municipality by way of a duly authorized Letter of Acceptance; and,
- e) Declare that, the relevant authorized person thereto will initial each page of the bid document and amendments.
- f) Declare that all information provided in respect of the bidder as well as the bid documents submitted are true and correct.
- g) Declare that documentary proof regarding aspects of the bid process or accidental thereto will, when required, be submitted to the satisfaction of the Municipality.

Signed atthis Day of (Year)

Signature of the Bidder: _____

Name of Bidder: _____

Professional Registration No, if any, attach proof)

Address: _____

Date: _____

As Witness: 1. _____

2. _____

Particular of Sole Proprietors and partners in partnerships

Name	Identity Number	Personal Income Tax Number

(Attach of identity Document, if bidder is a Sole Proprietor and/or partners in partnership)

State in cases where the bidder is a Company, Corporation of Firm by what authority the person signing does so, whether by Articles of Association, Resolution, Power of Attorney or otherwise.

I/We the undersigned am/are authorized to enter into this contract of behalf of:

by virtue of _____

dated _____ a certified copy if which is attached to this bid.

Signature of authorized person:_____

Name of Firm: _____

Postal Address:_____

Date:

As witness: 1. _____

2. _____

Please Note:

The prices at which bids are prepared to supply the goods and materials or perform the services must be placed on the column on the Form provided for that purpose.

Failure on the part of the bidder to sign the Form of Bid and initial each page of this bid document will result in a bid being disqualified.

Bank account details of bidder:

Bank: _____

Branch: _____

Branch Code: _____

Accounting Number: _____

Type of Account: _____

PROOF THAT MUNICIPAL ACCOUNT IS PAID IN FULL TO BE ATTACHED (ARRANGEMENTS MADE WITH COUNCIL WILL BE TAKEN INTO CONSIDERATION).

NOTE: THE AUTHORIZED SIGNATORY MUST SIGN ANY ALTERATIONS TO THE

BIDDER DOCUMENT IN FULL

ANY COMPLETION OF THE BIDDER DOCUMENT IN ERASABLE INK WILL NOT BE ACCEPTED

BIDDING INFORMATION

Details of person responsible for bidding process

Name _____

Contact number _____

Address of office submitting bid _____

Telephone _____

Fax no _____

E-mail address _____

VAT Registration Number _____

Has a B-BBEE status level verification certificate been submitted?

Yes/No

IF YES, WHO WAS THE CERTIFICATE ISSUED BY?

AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CC):

☐

A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN NATIONAL
ACCREDITATION SYSTEM (SANAS):

☐

A REGISTERED:

☐

(Tick applicable box)

**(A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE MUST BE SUBMITTED IN ORDER
TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE)**

ARE YOU THE ACCREDITED REPRESENTATIVE:

Yes/No

IN SOUTH AFRICA FOR THE GOODS/SERVICES/WORKS OFFERED? (IF YES ENCLOSE
PROOF)

AUTHORITY FOR SIGNATORY

Signatories for close corporation and companies shall conform their authority by attaching to this form a duly signed and dated copy of the relevant resolution of their members or their board of directors, as the case may be.

An example for a company is shown below:

"By resolution of the board of directors passed on _____ 20____

Mr/Ms. _____

Has been duly authorized to sign all documents in connection with the bid for

Contract _____ No _____

And any Contract, which may arise there from on behalf of

Signed on behalf of the company:

In his/her capacity as:

Date: _____

Signature of signatory

As witness: 1. _____

2. _____

GENERAL UNDERTAKINGS BY THE BIDDER

DEFINITION

1. **"Acceptable bid"** means any bid, which in all respects, complies with conditions of bid and specifications as set out in the bid document, including conditions as specified in the Preferential Procurement Regulation (of 2011).
2. **"Chairperson"** means the chairperson of the Polokwane Municipality Bid Adjudication Committee.
3. **"Municipal Manager"** means the Municipal Manager of the Municipality.
4. **Committee"** refers to the Bid Adjudication Committee.
5. **"Council"** refers to Polokwane Municipality.
6. **"Member"** means a member of the Bid Adjudication Committee.
7. **Service providers"** refers to the bidders who have been successful in being awarded Council contracts.
8. **SMMes"**(Small, medium and Micro Enterprises) refers to separate and distinct business entities, including co- operative enterprises and NGOs, managed by one owner or more, as defined in the National Small Business (Act 102 of 1996).
9. **Contract"** refers to legally binding agreement between Polokwane Municipality and the service provider.
10. **Bid** "means a written offer in a prescribed or stipulated form in response to an invitation by the Municipality for the provision of services or goods.
11. **Contractor"** means any natural or legal person whose bid has been accepted by the Council.
12. **"Closing time"** means the date and hour specified in the bid documents for the receipt of bids.
13. **"Order"** means an official written order issued for the supply of goods or the rendering of a service in accordance of the accepted bid or price quotation.
14. **"Written" or "in writing,"** means hand written in ink or any form of mechanical writing in printed form.

INTERPRETATION:

1. In this agreement clause headings are for convenience and shall not be used in its interpretation and, unless the context clearly indicates a contrary intention:
2. An expression which denotes:-
3. Any reference to any statute, regulation or other legislation or official policy shall be a reference to that statute, regulation or other legislation or national policy as at the signature date, and as amended or re-enacted from time to time;
4. When any number of day is prescribed, such shall be reckoned exclusively of the first and inclusively of the last day, unless the last day falls on a day which is not a business day, in which case the last day shall be the next succeeding day which is a business day;
5. Where any term is defined within a particular clause, other than the interpretation clause, that term shall bear the meaning ascribed to it in that clause wherever it is used in this agreement.

I/we hereby tender:

To supply all or any of the supplies and/or to render all or any of the services described in the attached documents {Forms, Schedule(s) and/or Annexure(s) to the Polokwane Municipality.

On the terms and conditions and accordance with the specifications stipulated in the bid documents (and which shall be taken as part of and incorporated into, this bid);

At the prices and on the terms regarding time for delivery and/or execution inserted therein.

I/we agree further that:

The offer herein shall remain binding upon me/us and open for acceptance by the Polokwane Municipality during the validity period indicated and calculated from the closing time of the bid.

This bid and its acceptance shall be subject to the terms and conditions contained in the Forms, Scheduled(s) and/or Annexure(s) attached hereto with which I am /we are fully acquitted.

Notwithstanding anything to the contrary in the Form(s), Schedule(s) and /or Annexure(s) attached hereto:

If I/we withdraw my/our bid within the period for which I/we have agreed that the bid shall remain open for acceptance, or fail to fulfill the contract when called upon to do so, the Polokwane Municipality may, without prejudice to its other rights, agree to the withdrawal of my/our tender or cancel the contract that may have been entered into between me/us and the Municipality;

In such event, I/we will then pay to the Municipality any additional expenses incurred by the Municipality for having either to accept any less favourable bid or, if new bids have to be invited, the additional expenditure incurred by the invitation of new bids and by the subsequent acceptance of any less favourable bid;

The Municipality shall also have the right in these circumstances, to recover such additional expenditure by set-off against monies which may be due or become due to me/us under this or any other bid or contract or against any guarantee or deposit that may have been furnished by me/us or on my/our behalf for the due fulfillment of this or any other bid or contract;

Pending the ascertainment of the amount of such additional expenditure the Municipality may retain such monies, guarantee or deposit as security for any loss

the Municipality may sustain, as determined hereunder, by reason of my/our default.

Any legal proceedings arising from this bid may in all respects be launched or instituted against me/us and if/we hereby

undertake to satisfy fully any sentence or judgment which may be obtained against me/us as a result of such legal proceedings and I/we undertake to pay the Polokwane Municipality legal costs on an attorney and own client;

If my/our bid is accepted that acceptance may be communicate to me/us by letter or facsimiles and that proof of delivery of such acceptance to SA Post Office Ltd or the production of a document confirming that a fax has been sent, shall be treated as delivery to me/us.

The law of the Republic of South Africa shall govern the contract created by the acceptance to this tender.

I/we have satisfied myself/ourselves as to the correctness and validity of this tender, that the price(s) and rate(s) quoted cover all the work/items(s) specified in the tender documents and that the price(s) and rate(s) cover all my/our obligations under a resulting contract and that I/we accept that any mistakes regarding price(s) and calculations will be at my/our risk.

I/we accept full responsibility for the proper execution and conditions defaulting on me/us under this agreement as the principal(s) liable for the fulfillment of this contract.

I/we declare that I/we have participated /no participated in the submission of any other bid for the supplies/services described in the attached documents. If your answer here is yes, please state the names(s) of the other Bid(s) involved: _____

General Conditions of Contract

1 DEFINITION

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 goods 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 have 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. 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.
- 1.13 **"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.
- 1.14 **"GCC"** means the General Conditions of Contract.
- 1.15 **"Goods"** means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 **"Imported content"** means that portion of the bidding price represented by the cost of component 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 goods covered by the bid will be

manufactured.

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

1.18 **“Manufacture”** means the production of products in a factory using labour, materials, component and machinery and includes other related value-adding activities.

1.19 **“Order”** means an official written order issued for the supply of goods or works or the rendering of a service.

1.20 **“Project site,”** where applicable, means the place indicated in bidding documents.

1.21 **“Purchaser”** means the organization purchasing the goods.

1.22 **“Republic”** means the Republic of South Africa.

1.23 **“SCC”** means the Special Conditions of Contract.

1.24 **“Services”** means those 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.

1.25 **“Supplier”** means the successful bidder who is awarded the contract to maintain and Administer the required and specified service(s) to the State.

1.26 **“Tort”** means in breach of contract.

1.27 **“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.

1.28 **“Written”** or “in writing” means hand-written 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 (excluding professional services related to the building and construction industry), 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 goods, 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 nonrefundable 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 so 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 GC 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.

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 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:

(a) a 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

(b) 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.

8.2 If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.

8.3 If there are no inspections 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.

8.4 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.

8.5 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.

8.6 Goods 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.

8.7 Any contract goods may on or after delivery be inspected, tested or analysed 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.

8.8 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 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, if any, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

10.1 Delivery of the goods and arrangements for shipping and clearance obligations, shall be made by the supplier in accordance with the terms specified in the contract.

11. Insurance

11.1 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

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

13. Incidental Services

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

(a) Performance or supervision of on-site assembly and/or commissioning of the supplied goods;

(b) Furnishing of tools required for assembly and/or maintenance of the supplied goods;

(c) Furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;

(d) 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

(e) 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: (a) 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;

(b) in the event of termination of production of the spare parts:

(i) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and

(ii) 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.

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 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 promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.

16.3 Payment will be made in Rand unless otherwise stipulated.

17. Prices

17.1 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

18.1 In cases where the estimated value of the envisaged changes in purchase does not vary more than 15% 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

19.1 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.

20. Subcontracts

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts 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 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 goods 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 22.2 without the application of penalties.

21.5 Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods 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

22.1 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, sum calculated on the delivered price of the delayed goods or unperformed 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:

(a) 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;

(b) If the supplier fails to perform any other obligation(s) under the contract; or

(c) 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 service 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. 23.4 If a purchaser intends imposing a restriction on a supplier or any person associate 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 purchaser 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:

- (i) The name and address of the supplier and / or person restricted by the purchaser;
- (ii) The date of commencement of the restriction
- (iii) The period of restriction; and
- (iv) 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. Antidumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping 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 or 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 supplier to the purchaser or the purchaser may deduct such amounts from moneys (if any) which may otherwise be due to the supplier in regard to goods 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, 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

26.1 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.

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,

(a) The parties shall continue to perform their respective obligations under the contract Unless they otherwise agree; and

(b) The purchaser shall pay the supplier any monies due the supplier 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;

(a) 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

(b) 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

29.1 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

30.1 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

33.1 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

34.1 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 Of 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 PROCEDURES**1 General Directives**

- 2.1 The following general procedures contained in this document have been laid down by the Council and are applicable to all bids, orders and contracts, unless otherwise approved by the Council prior to the invitation of the bids.
- 2.2 Where applicable, special conditions or procedures are also laid down by the Council to cover specific supplies or services.
- 2.3 Where such special conditions or procedures are in conflict with the general conditions and procedures, the special conditions or procedures shall apply.
- 2.4 The bidder shall satisfy himself/herself with the conditions and circumstances of the bid. By bidding, the bidder shall deem to have satisfied himself/herself as to all the conditions and circumstances of the bid.
- 2.5 Formal contract are concluded with the contractors only where this requirement is stated in the bid invitation.
- 2.6 All bids with regard to the bidding of a service e.g. materials, cleaning services; professional services, etc. shall be subject to the negotiation of a Service Level agreement between the successful contractor and the Municipality. The acceptance of this Service Level Agreement is subject to the approval by the Council of the Municipality.
- 2.7 The written acceptance of bid shall be posted to the bidder or contractor concerned by registered or certified mail.

2 Issuing of bid documents

On the date that the advertisement appears in the Municipality's Tender Bulletin, and or media, prospective bidders may request copies of the tender documentation.

The Supply Chain Management Unit will keep a register and potential bidders should sign for receipt of the bid documentation. If a fee is payable, an official receipt must be issued before the bid document is handed to the bidder.

No bid responses from any bidder should be accepted if sent via the Internet, e-mail or fax.

Only the Supply Chain Management Unit will have direct communication between the potential bidders and will facilitate all communication between potential bidders and the Municipality with regard to any advertised bid. No line function staff should be allowed to communicate with potential bidders without the approval by the Manager: Supply Chain Management Unit.

The Supply Chain Management Unit will only consider request for the extension of the closing dates of advertised bid if the postponed date can be advertised in the media used to advertise before the original closing date. The closing time may be postponed only if all potential bidders can be advised of the postponed time, in writing, before the original closing time.

The decision to extend the closing date or time rests with the Manager: Supply Chain Management Unit, who must ensure compliance with all relevant rules and regulations and must confirm prior to the action being taken.

3 Payment of bid documents

Bids documents containing the Conditions of Bid and other requirements in terms of the Supply Chain Management Policy will be downloaded from e-tender Publication Portal at www.etenders.gov.za at no fee.

4 Public Invitation for competitive bids

The following are procedures for the invitation of competitive bids:

4.1 Invitation to prospective providers to submit bids must be by means of a public advertisement in national treasury e-tenders publication portal www.etenders.gov.za, the website of the municipality or any other appropriate ways (which may include an advertisement in the Government Tender Bulletin or newspapers) and

5 Public advertisement must contain the following:

The closure date for the submission of bids, which may not be less than 30 days in the case of transactions over R10 million (Vat included), or which are of a long term nature, or 14 days in any other case, from the date on which the advertisement is placed in a newspaper; subject to (iii) below; and

6 Accounting officer may determine a closure date for the submission of bids which is less than the 30 or 14 days requirement, but only if such shorter period can be justified on the grounds of urgency or emergency or any exceptional case where it is impractical or impossible to follow the official procurement process.

7 Bids submitted must be sealed.

8 The following information must appear in any advertisement:

- Bid number;
- Description of the requirements;
- The place where the bid documents can be obtained;
- The date, time and venue where site inspection/briefing session will be (if applicable);
- Closing date and time;
- The fee applicable that must be paid before the bid documents will be issued; and
- The name and telephone numbers of the contact person for any enquiries

9 Site meetings of briefing sessions

A fully explanatory site inspection must be conducted before the close of the bids to ensure that the bidders understand the scope of the project and that they can comply with the conditions and requirements.

It should be a condition that prospective bidders attend a site inspection and non-attendance should invalidate a bid, where a site inspection/briefing session is applicable.

10 Handling of bids submitted in response to public invitation

10.1 Closing of bids

All bids will close at **10H00** on a date as stipulated on the advertisement, which must be reflected in the bid document.

Bids are late if they are received at the address indicated in the tender documents after the closing date and time.

A late bid should not be admitted for consideration and where practical should be returned unopened to the bidder accompanied by explanation.

10.2 Opening of bids

Bids are opened in public as soon as possible after the closure in the presence of the Manager: Supply Chain Management or his/her delegate.

The official opening the bids should in each case read out the name of the bidder and the amount of the bid.

The bid should be stamped with the official stamp of the Municipality and endorsed with the signatures of the person opening it and of the person in whose presence it was opened.

Bids should be recorded in a register kept for that purpose.

10.3 Validity Period of the bids

The validity periods should not exceed 90 (ninety) days and is calculated from the date of bid closure endorsed on the front cover of the bid document.

Should the validity period expires on a Saturday, Sunday or Public holiday, the bid must remain valid and open for acceptance until the closure on the following working date.

10.4 Consideration of bids

- The Council takes all bids duly admitted into consideration.
- The Council reserves the right to accept the lowest or any bid received.
- The decision by the Municipality regarding the awarding of a contract must be final and binding

10.5 Evaluation of bids

The following are criteria against which all bids responses will be evaluated:

11 Compliance with bid conditions;

- Bid submitted on time,
- Bid forms signed and each page initialled
- All essential information provided
- Submission of a Joint Venture Agreement, which has been properly signed by all parties

- Payment of Municipal Fees

12 Meeting technical specifications and comply with bid conditions;

13 Financial ability to execute the contract; and

- (i) The number of points scored for achieving Government's Broad-Based Black Economic Empowerment objectives and points scored for price.
- (ii) Only bidders who are registered in the relevant professional body will be considered. This requirement will remain in force as long as it is a requirement of that specific professional body.
- (iii) The Joint Ventures, all companies, which are part of the joint venture, must be registered with the professional body. The company that meets the requirement of professional body will be considered.

14 Evaluation of bids on functionality and price

14.1 All bids received will be evaluated on functionality and price.

15 The conditions of bid may stipulate that a bidder must score a specified minimum number of points for functionality to qualify for further evaluation.

- I. The number of points scored for achieving Government's Broad-Based Black Economic Empowerment objectives must be calculated separately and must be added to the points scored for price.
- II. Only bid with the highest number of points will be selected.

16 Acceptance of bids

Successful bidders must be notified at least by registered post of the acceptance of their bids, but that acceptance however, will only take effect after completion of the prescribed contract form.

The successful service provider will be required to sign the service level agreement.

Unsuccessful bids should not be returned to bidders, but should be placed on record for audit purposes.

A register or records should be kept of all bids accepted

17 Publication of bids results

The particulars of the successful bidders should be published in the Municipality's Tender Bulletin, website as well as the newspaper on which the bid was advertised.

18 Cancellation and re-invitation of bids

- I. In the event that in the application of the 80/20 preference point system as stipulated in the bid documents, all bids received exceed the estimated Rand Value of R50 000 000.00, the bid invitation must be cancelled. If one or more of the acceptable bid(s)

received are within the R50 000 000.00 threshold, all bids received must be evaluated on the 80/20 preference point system

- II. In the event that, in the application of the 90/10 preference point system as stipulated in the bid documents, all bids received are equal to or below R50 000 000.00, the bid must be cancelled. If one or more of the acceptable bid(s) received are above the R50 million threshold, all bids received must be evaluated on the 90/10 preference point system

If a bid was cancelled as indicated above, the correct preference point system must be stipulated in the bid documents of the re-invited bid.

Municipal Manager may, prior to the award of a bid, cancel the bid if:

Due to changed circumstances, there is no longer a need for the services, works or goods requested.

Municipal Manager must ensure that only goods, services or works that are required to fulfil the needs of the institution are procured. Or

Funds are no longer available to cover the total envisaged expenditure.

Municipal Manager must ensure that the budgetary provisions exist prior to inviting bids: or

No acceptable bids are received (If all bids received are rejected, the institution must review the reasons justifying the rejection and consider making revisions to the specific conditions of contract, design and specifications, scope of the contract, or a combination of these, before inviting new bids)

19 Sale and Letting of Asset

The Preferential Procurement Regulations, 2011 is not applicable to the sale and letting of assets

In instances where assets are sold or leased by means of a bidding process, the bid must be awarded to the bid with the highest price.

BID NUMBER: PM20/2022**SPECIAL CONDITIONS OF CONTRACT**

- Material will be ordered as and when required.
- Materials should be SABS approved.
- Service providers will be used on rotational basis.
- If it's found that the service provider has failed to execute works / deliveries in accordance with the contract, or is neglecting to deliver materials within the delivery period will result in termination of contract.
- Complete order to be delivered as one consignment (no partially delivery will be accepted).
- After the order is being issued delivery must be within 4 - 6 weeks' period.
- The service provider must deliver all the goods ordered at Polokwane Municipality stores (Ladanna) 106 Vermukuleit street Polokwane
- Service Providers should provide sample of the required stock as per the order for approval before bulk delivery

BID NUMBER: PM20/2022

BID SPECIFICATIONS

1. LED LUMINAIRE FOR ASYMETRICAL POST TOP LUMINAIRE (43W MINIMUM)

1.1. Scope

The LED Luminaires shall be designed, manufactured and tested such that they can be incorporated with a Tele-Management system in the future. Although the Tele-Management system does not form part of scope of work in this tender, the tenderer shall ensure that the offered LED luminaires are compatible to a Tele-Management system.

The LED luminaires shall also operate satisfactorily when subjected to the following conditions:

- Nominal Supply Voltage: 230V AC ($\pm 10\%$)
- Nominal Supply Frequency: 50Hz ($\pm 10\%$)
- Climate: hot exterior - Inland
- Altitude: > 1000m
- Ambient Temperature: - 5 to +40 Degree Celsius
- Relative Humidity: 20% – 90%
- Average Annual Rainfall: 560mm per annum
- Pollution: Dust, Industrial

1.2. General Requirements

The LED Streetlight Luminaire shall comply with the requirements of SANS 60598 and SANS 475. This shall be supported by documentary evidence in the form of Type Test reports / Product certification. The LED luminaire shall be supplied as a complete unit, ready for use with all components fully assembled, including the luminaire housing, driver, LED modules, lenses, reflectors, wiring, mounting brackets, etc. In addition to the above requirements, the LED Luminaire offered by the supplier shall meet or exceed the requirements specified by the Purchaser in Schedule 1: Schedule of Technical Data. Schedule 1 forms part of this tender document and must be completed by the supplier as part of the tender submission data package.

The supplier shall also provide the following documents as part of the returnable:

- Completed technical schedule 1
- Photometric test reports for luminaire offered
- SANS/IEC 60598-2-5 Product Type Test Report
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- The Local Content for the manufacturing of the LED luminaire in the Republic of South Africa must be at least 80%.

1.3. Normative References

The following standards contain provision that, whether referenced in the text or not, constitute requirements of this specification.

ARP 035	Guidelines for the installation and maintenance of street lighting
IEC 62471	Photo biological safety of lamps and lamp systems
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products
IES TM 21-11	Projecting Long Term Lumen Maintenance of LED Light Sources
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 215	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
SANS 475	Luminaires for interior lighting, street lighting and floodlighting — Performance requirements
SANS 529	Heat-resisting wiring cables
SANS 1088	Luminaire entries and spigots
SANS 1091	National Colour Standard
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) 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 10098-1	Public lighting Part 1: The lighting of public thoroughfares
SANS/IEC 51706	Aluminum and aluminum alloys – Castings – Chemical composition and mechanical properties
SANS/IEC 60529	Degrees of Protection provided by Enclosures (IP Code)
SANS/IEC 60598-1	Luminaires: Part 1. General Requirements and Tests
SANS 60598-2-3	Luminaires Part 2-3: Particular requirements - Luminaires for road and street lighting
SANS/IEC 60598-2-5	Luminaire: Particular requirements – luminaires for Floodlights
SANS/IEC 61000-3-2	Electromagnetic compatibility(EMC) Part 3-2: Limits — Limits for harmonic current emissions
SANS/IEC 61000-3-3	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flickering public low- voltage supply systems
SANS/IEC 61000-4-5	Surge immunity test – Testing and measurement
SANS/IEC 61347-1	Lamp control gear Part 1: General and safety requirements
SANS/IEC 61347-2-13	Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
SANS/IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
SANS/IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
SANS/IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
SANS 10098-2	Lighting of certain specific areas of street and highways
ISO 4762	Hexagon socket head cap screws
ISO 9001: 2008	Quality management systems
OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations

NB: Tenders offering equipment to standards other than those listed above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Note that the International (IEC) equivalence of SANS standards are generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

1.4. Definitions and Abbreviations

The definitions and abbreviation given in SANS/IEC 60598-1 / SANS / IEC 60598-2-5 / SANS 475 shall apply.

1.5. General Specifications

1.5.1. Product Description

- Bottom entry luminaire designed for optimized residential road, roads & motorways, car parks, pedestrian and perimeter lighting.
- This post top luminaire provides a new contemporary design for a well-known shape using state-of-the-art LED technology.
- Testing standard in line with SANS 60598 and SANS 62262.
- The luminaire shall bear the SANS 60598-2-3 safety mark.
- The luminaire shall have a degree of protection that complies with SANS 60598-2-3:
 - LED compartment: IP 66
 - The IP rating is supported by a certified SABS test report.
- It consists of a high-pressure die-cast marine grade aluminium (EN 1706 AC-44300) base and gear plate, a top cover made of Acrylonitrile Styrene Acrylate (ASA) and a high-impact acrylic protector for durability and weather resistance.
- Electronic temperature monitoring prevents overheating of LEDs and power supply, positioned directly next to LEDs (ThermiX®).
- The luminaire emits a pleasant, glare-free light due to the highly efficient white reflector (symmetrical light distribution).
- All screws, bolts and metal parts are stainless steel or non-corrosive material. Mains connections by means of a suitable screw terminal block with a wire clamping contact. The luminaire power factor corrected to a minimum of 0,95.
- The complete luminaire is sealed to IP 66.
- Recommended mounting height = 3m - 6m

1.5.2. Photometric Performance Requirements

Light Source	- LED.
Area of LED	- 2mm ²
Number of LEDs	- Minimum of 24 LED's in the optical compartment.
Colour Temperature	- The colour temperature of the luminaires shall be Cool white 757, 5700K.
Colour Rendering (Ra)	- The colour rendering index shall be ≥70.

Performance	<ul style="list-style-type: none"> - Power Consumption = 43W Minimum - The LED current must be equal to 550mA with a nominal flux (lm) of minimum 6300 lumens with a nominal efficacy 147 lm/W or higher.
Maintenance Factor	<ul style="list-style-type: none"> - 80%
Photometry	<ul style="list-style-type: none"> - LensoFlex®4 photometric engines or similar photometric engines used for photometric distribution will be an advantage. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LED's in combination with the driving current that determines the intensity level of the light distribution. The LensoFlex®4 or equivalent concept must be used as a platform to build a state-of-the-art range of LED lighting solutions that provide significant energy savings and offer flexibility both in terms of performance and control while ensuring a long lifespan.
Photometry Optic	<ul style="list-style-type: none"> - Asymmetrical
Lifetime Residual Flux	<ul style="list-style-type: none"> - The lifetime residual flux is recommended to be 70% at 100 000h at an ambient temperature (Tq) of 25°C.
Lifetime of the LEDs @ TQ 25°C	<ul style="list-style-type: none"> - 100,000h - L70B10
Lifetime of the Driver @ TQ 25°C	<ul style="list-style-type: none"> - 80,000h ≤10% failure rate
Upward Light Output Ratio (ULOR)	<ul style="list-style-type: none"> - ≤ 8%

1.5.3. Electrical Requirements

Operating Voltage	<ul style="list-style-type: none"> - The LED Luminaire shall be subjected to operational nominal voltages rated at 230V AC \pm 10%, with a Frequency of 50Hz \pm10%.
Voltage Tolerance	<ul style="list-style-type: none"> - The LED Luminaire shall be subjected to voltage tolerance (AC) between 198 – 264V.
Power Factor	<ul style="list-style-type: none"> - The minimum power factor shall be 0.95, and the harmonic distortion levels shall be limited to less than 20% so as not to cause interference on the electrical network.
Surge Protection	<ul style="list-style-type: none"> - A suitable surge protection device must be provided to protect the driver and the LED modules. The surge protection device shall be mounted inside the control gear compartment, and be easily replaceable. The surge protection device should be capable to withstand surges of up to 10KV/10KA. The supplier

shall provide technical data sheets of the surge protection device integrated in the offered luminaire.

- | | |
|------------------------|---|
| LED Driver | - The LED Driver shall comply with the requirements of SANS 55015:2013/aaa1:2015, SANS 61000-3-2:2014, SANS 61000-3-3:2013, SANS 61547:2009 and SANS 62493:2015. |
| Wiring | - The wiring shall comply with the requirements of SANS 60598-1 and SANS 529. The wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperatures to which it will be subjected to during operation. The terminal blocks of the incoming supply cable shall be fixed independently, fastened, and housed inside the control gear compartment within the body of the luminaire. The terminal shall be indelibly marked either by means of colour coding or by the letters L, N & E. |
| Provision for Earthing | - The luminaire shall be earthed in accordance with the clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993). The Earthing of the luminaire shall comply with SANS60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal. The contact surface shall be bare metal and not be painted or varnished surfaces. |

1.5.4. Mechanical Performance Requirements

- | | |
|--------------|--|
| Construction | <ul style="list-style-type: none">- The luminaire housing must be robustly constructed from non-corrosive aluminium material to SANS/IEC 51706; and shall be weatherproof, hail proof, corrosion proof and vandal resistant.- Top cover - Acrylonitrile styrene acrylate (ASA).- Base and gear plate - Marine grade high-pressure die-cast aluminium (EN 1706 AC-44300)- LED Engine – Marine grade aluminium.- Protector – High-impact acrylic.- Coating – Light Grey (RAL 7047), Textured finish.- Installation – Bottom-entry Ø76.- Impact resistance - High-impact acrylic: IK 08.- Dimensions (WxH) – 578 x 324 Standard Version.- Weight (with gear) – 4.9kg.- Spigot length (mm) - ≥ 125- The aerodynamic resistance must be 0.08m^2. |
|--------------|--|

1.5.5. Environment

Storage temperature	- -40°C to +60°C
Operating temperature (Ta)	- -35°C to + 35°C
Enclosure Tightness	- IP 66
Enclosure Mechanical Withstand Impact	- IK 08
Enclosure Mechanical Withstand Vibrations	- Modified IEC 60068-2-6

1.5.6. Marking and Packaging

Except as specified otherwise, the method of marking must comply with SANS 60598-1 and shall be to the approval of the Client. A self-adhesive foil label must be applied to the outside of the luminaire in a position readily visible when the luminaire is mounted in position. The label must identify the type and the rating of the luminaire.

Luminaires must be delivered fully assembled and ready for use and packed in robust, triple-walled cardboard boxes each containing no more than one luminaire. A description of the luminaire, manufacturer, and model number must be marked on the outside of the box.

1.5.7. Mandatory Technical Returnable Documents

- Completed Technical Schedule 1
- Photometric Test Reports for Luminaire Offered
- SANS/IEC 60598-2-5 Type Test Report from SABS or any ILAC accredited Laboratory for Luminaire offered
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- Lighting Design Simulation for Luminaire offered
- Manufacturer's ISO 9001 Registration Certificate

1.5.8. Schedule 1: Schedule of Technical Data

LED Streetlight Luminaire

Schedule 1 – Part A:

Client's Specific Technical Requirements

Schedule 1 – Part B:

Guarantees and Technical Particulars of LED Luminaire offered

Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
1	Manufacture Details			
1.1	Name of LED Luminaire Manufacture *		XXXXXXXXXX	
1.2	Manufacturer's ISO 9001 Registration Certificate Number		XXXXXXXXXX	
1.3	Manufacturer's ISO 9001 Registration Certificate *		Required	Yes / No
1.4	Location of Manufacture (Country) *		South Africa	
1.5	Local Content	%	≥ 80%	
1.6	Luminaire Type		LED Post Top	
1.7	Luminaire Model Name		XXXXXXXXXX	
2	Photometric Specifications			
2.1	Luminaire Lifetime Residual Flux at t ₉₀ 25 °C	Lm	95%	
2.2	Luminaire Efficacy (lm/W) *	Lm/W	≥ 147	
2.3	Colour Rendering Index (CRI) *		≥ 70	
2.4	Colour Temperature (Average) *	K	5700	
2.5	Nominal flux	lm	6300	
2.6	Maintenance factor	%	80	
2.7	Photometry Optic		Symmetrical	
3	Electrical Specifications			
3.1	Total Luminaire Power Minimum*	W	43W	
3.2	Minimum Energy Savings *	%	40 (minimum)	
3.3	Input Voltage	V AC	230 ± 10%	
3.4	Voltage Tolerance	V AC	198-264	
3.5	Input Frequency	Hz	50	
3.6	Power Factor *		≥ 0.95	
3.7	Total Harmonic Distortion *	%	≤ 20	
3.8	Safety Class *		Class 1	
3.9	Surge Protection *	KV&KA	≥ 10 & 10	
4	Mechanical specifications			
4.1	IP Rating *		≥ 66	
4.2	IK Rating *		≥ 08	
4.3	Luminaire Housing Material *		Aluminium	
4.4	Hinge pins, clips, clamps, set screws, bolts, nuts etc.		Stainless Steel (Grade 304)	
4.5	Optical compartment cover material		XXXXXXXXXX	
4.6	Reflector Material		XXXXXXXXXX	
4.7	Lens Material		XXXXXXXXXX	
4.8	Diffuser Material		XXXXXXXXXX	
4.9	Luminaire Dimensions (W *H) *	mm	578 x 324	
4.10	Total Luminaire Weight *	Kg	4.9kg	
4.11	Luminaire installation angle(s) *	Deg	90	
4.12	Mounting Bracket for fitment on Mast *		XXXXXXXXXX	Yes / No *
4.13	Body Powder Coating		XXXXXXXXXX	Yes / No *
5	Thermal Management Specification			
5.1	Luminaire operating temperature range*	°C	0 - 40	
5.2	LED junction temperature at drive current, T _j (°C)	°C	XXXXXXXXXX	
5.3	Thermal cut-off temperature switch provided		XXXXXXXXXX	Yes / No *
5.4	Temperature test report *		Required	Yes / No *

Schedule 1 continues...

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

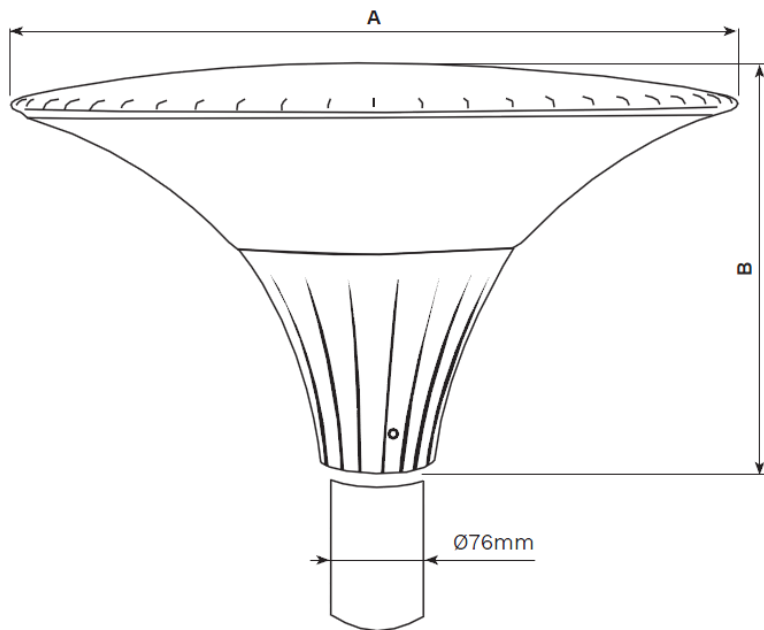
Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
6	Spare Parts Specifications			
6.1	LED Driver Part Number		XXXXXXXXXX	
6.2	LED Driver Make (Manufacture Name)		XXXXXXXXXX	
6.3	LED Module Part Number		XXXXXXXXXX	
6.4	LED Chip Make (Manufacture Name)		XXXXXXXXXX	
6.5	Surge Protection Part Number		XXXXXXXXXX	
6.6	Surge Protection Make (Manufacture Name)		XXXXXXXXXX	
7	Returnable Technical Documents			
7.1	Completed Schedule 1: Technical Data*		Required	Yes / No
7.2	Completed Schedule 2: Design Data*		Required	Yes / No
7.3	Photometric test reports		Required	Yes / No
7.4	SANS/IEC 60598-2-5 Product Type Test Report*		Required	Yes / No
7.5	Product Technical Datasheet*		Required	Yes / No
7.6	Instructional Installation Manual		Required	Yes / No
7.7	Endurance and thermal tests report		Required	Yes / No
7.8	Warranty Certificate *		Required	Yes / No
7.9	IES and/or LDT files *		Required	Yes / No
7.10	Lumen depreciation curves*		Required	Yes / No
7.11	Lighting Design Simulation *		Required	Yes / No
8	Warranties			
8.1	Luminaire Life Expectancy	yrs	10	
8.2	Lifetime Residual Flux	hrs	100 000 @ 95%	
8.3	Luminaire warranty*	yrs	5	
9	Delivery			
9.1	Lead Time for Delivery (from date of order)	days	XXXXXXXXXX	

***Mandatory**

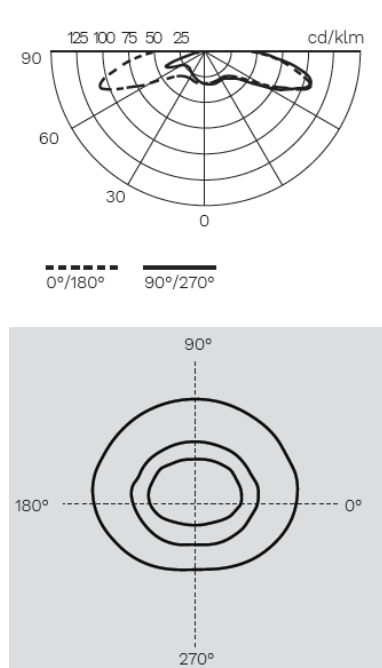
1.5.9. Performance Guarantee

All the luminaires offered shall have a minimum warranty period of 5 years. The scope of warranty shall include the luminaire housing, LED driver, and LED modules. The Luminaires which fail within the warranty period as a result of poor design, manufacturing and/or poor material component shall be replaced at no cost by the supplier.

1.5.10. Technical Drawing



1.5.11. Light Distribution



Bidding Company: _____

Name: _____ Signed: _____

Capacity of Signatory: _____ Date: _____

NOTE: All the materials must be SABS approved.

2. LED LUMINAIRE FOR SYMETRICAL POST TOP LUMINAIRE (43W MINIMUM)

2.1. Scope

The LED Luminaires shall be designed, manufactured and tested such that they can be incorporated with a Tele-Management system in the future. Although the Tele-Management system does not form part of scope of work in this tender, the tenderer shall ensure that the offered LED luminaires are compatible to a Tele-Management system.

The LED luminaires shall also operate satisfactorily when subjected to the following conditions:

- Nominal Supply Voltage: 230V AC ($\pm 10\%$)
- Nominal Supply Frequency: 50Hz ($\pm 10\%$)
- Climate: hot exterior - Inland
- Altitude: > 1000m
- Ambient Temperature: - 5 to +40 Degree Celsius
- Relative Humidity: 20% – 90%
- Average Annual Rainfall: 560mm per annum
- Pollution: Dust, Industrial

2.2. General Requirements

The LED Streetlight Luminaire shall comply with the requirements of SANS 60598 and SANS 475. This shall be supported by documentary evidence in the form of Type Test reports / Product certification. The LED luminaire shall be supplied as a complete unit, ready for use with all components fully assembled, including the luminaire housing, driver, LED modules, lenses, reflectors, wiring, mounting brackets, etc. In addition to the above requirements, the LED Luminaire offered by the supplier shall meet or exceed the requirements specified by the Purchaser in Schedule 1: Schedule of Technical Data. Schedule 1 forms part of this tender document and must be completed by the supplier as part of the tender submission data package.

The supplier shall also provide the following documents as part of the returnable:

- Completed technical schedule 1
- Photometric test reports for luminaire offered
- SANS/IEC 60598-2-5 Product Type Test Report
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- The Local Content for the manufacturing of the LED luminaire in the Republic of South Africa must be at least 80%

2.3. Normative References

The following standards contain provision that, whether referenced in the text or not, constitute requirements of this specification.

ARP 035	Guidelines for the installation and maintenance of street lighting
IEC 62471	Photo biological safety of lamps and lamp systems
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products
IES TM 21-11	Projecting Long Term Lumen Maintenance of LED Light Sources
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 215	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
SANS 475	Luminaires for interior lighting, street lighting and floodlighting — Performance requirements
SANS 529	Heat-resisting wiring cables
SANS 1088	Luminaire entries and spigots
SANS 1091	National Colour Standard
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) 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 10098-1	Public lighting Part 1: The lighting of public thoroughfares
SANS/IEC 51706	Aluminum and aluminum alloys – Castings – Chemical composition and mechanical properties
SANS/IEC 60529	Degrees of Protection provided by Enclosures (IP Code)
SANS/IEC 60598-1	Luminaires: Part 1. General Requirements and Tests
SANS 60598-2-3	Luminaires Part 2-3: Particular requirements - Luminaires for road and street lighting
SANS/IEC 60598-2-5	Luminaire: Particular requirements – luminaires for Floodlights
SANS/IEC 61000-3-2	Electromagnetic compatibility(EMC) Part 3-2: Limits — Limits for harmonic current emissions
SANS/IEC 61000-3-3	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flickering public low- voltage supply systems
SANS/IEC 61000-4-5	Surge immunity test – Testing and measurement
SANS/IEC 61347-1	Lamp control gear Part 1: General and safety requirements
SANS/IEC 61347-2-13	Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
SANS/IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
SANS/IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
SANS/IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
SANS 10098-2	Lighting of certain specific areas of street and highways
ISO 4762	Hexagon socket head cap screws
ISO 9001: 2008	Quality management systems
OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations

NB: Tenders offering equipment to standards other than those listed above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Note that the International (IEC) equivalence of SANS standards are generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

2.4. Definitions and Abbreviations

The definitions and abbreviation given in SANS/IEC 60598-1 / SANS / IEC 60598-2-5 / SANS 475 shall apply.

2.5. General Specifications

2.5.1. Product Description

- Bottom entry luminaire designed for optimized residential road, roads & motorways, car parks, pedestrian and perimeter lighting.
- This post top luminaire provides a new contemporary design for a well-known shape using state-of-the-art LED technology.
- Testing standard in line with SANS 60598 and SANS 62262.
- The luminaire shall bear the SANS 60598-2-3 safety mark.
- The luminaire shall have a degree of protection that complies with SANS 60598-2-3:
 - LED compartment: IP 66
 - The IP rating is supported by a certified SABS test report.
- It consists of a high-pressure die-cast marine grade aluminium (EN 1706 AC-44300) base and gear plate, a top cover made of Acrylonitrile Styrene Acrylate (ASA) and a high-impact acrylic protector for durability and weather resistance.
- Electronic temperature monitoring prevents overheating of LEDs and power supply, positioned directly next to LEDs (ThermiX®).
- The luminaire emits a pleasant, glare-free light due to the highly efficient white reflector (symmetrical light distribution).
- All screws, bolts and metal parts are stainless steel or non-corrosive material. Mains connections by means of a suitable screw terminal block with a wire clamping contact. The luminaire power factor corrected to a minimum of 0,95.
- The complete luminaire is sealed to IP 66.
- Recommended mounting height = 3m - 6m

2.5.2. Photometric Performance Requirements

Light Source	- LED.
Area of LED	- 2mm ²
Number of LEDs	- Minimum of 24 LED's in the optical compartment.
Colour Temperature	- The colour temperature of the luminaires shall be Cool white 757, 5700K.
Colour Rendering (Ra)	- The colour rendering index shall be ≥70.

Performance	<ul style="list-style-type: none"> - Power Consumption = 43W Minimum - The LED current must be equal to 550mA with a nominal flux (lm) of minimum 6300 lumens with a nominal efficacy 147 lm/W or higher.
Maintenance Factor	<ul style="list-style-type: none"> - 80%
Photometry	<ul style="list-style-type: none"> - LensoFlex®4 photometric engines or similar photometric engines used for photometric distribution will be an advantage. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LED's in combination with the driving current that determines the intensity level of the light distribution. The LensoFlex®4 or equivalent concept must be used as a platform to build a state-of-the-art range of LED lighting solutions that provide significant energy savings and offer flexibility both in terms of performance and control while ensuring a long lifespan.
Photometry Optic	<ul style="list-style-type: none"> - Asymmetrical
Lifetime Residual Flux	<ul style="list-style-type: none"> - The lifetime residual flux is recommended to be 70% at 100 000h at an ambient temperature (Tq) of 25°C.
Lifetime of the LEDs @ TQ 25°C	<ul style="list-style-type: none"> - 100,000h - L70B10
Lifetime of the Driver @ TQ 25°C	<ul style="list-style-type: none"> - 80,000h ≤10% failure rate
Upward Light Output Ratio (ULOR)	<ul style="list-style-type: none"> - ≤ 8%

2.5.3. Electrical Requirements

Operating Voltage	<ul style="list-style-type: none"> - The LED Luminaire shall be subjected to operational nominal voltages rated at 230V AC \pm 10%, with a Frequency of 50Hz \pm10%.
Voltage Tolerance	<ul style="list-style-type: none"> - The LED Luminaire shall be subjected to voltage tolerance (AC) between 198 – 264V.
Power Factor	<ul style="list-style-type: none"> - The minimum power factor shall be 0.95, and the harmonic distortion levels shall be limited to less than 20% so as not to cause interference on the electrical network.
Surge Protection	<ul style="list-style-type: none"> - A suitable surge protection device must be provided to protect the driver and the LED modules. The surge protection device shall be mounted inside the control gear compartment, and be easily replaceable. The surge protection device should be capable to withstand surges of up to 10KV/10KA. The supplier

shall provide technical data sheets of the surge protection device integrated in the offered luminaire.

- | | |
|------------------------|---|
| LED Driver | - The LED Driver shall comply with the requirements of SANS 55015:2013/aaa1:2015, SANS 61000-3-2:2014, SANS 61000-3-3:2013, SANS 61547:2009 and SANS 62493:2015. |
| Wiring | - The wiring shall comply with the requirements of SANS 60598-1 and SANS 529. The wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperatures to which it will be subjected to during operation. The terminal blocks of the incoming supply cable shall be fixed independently, fastened, and housed inside the control gear compartment within the body of the luminaire. The terminal shall be indelibly marked either by means of colour coding or by the letters L, N & E. |
| Provision for Earthing | - The luminaire shall be earthed in accordance with the clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993). The Earthing of the luminaire shall comply with SANS60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal. The contact surface shall be bare metal and not be painted or varnished surfaces. |

2.5.4. Mechanical Performance Requirements

- | | |
|--------------|--|
| Construction | <ul style="list-style-type: none">- The luminaire housing must be robustly constructed from non-corrosive aluminium material to SANS/IEC 51706; and shall be weatherproof, hail proof, corrosion proof and vandal resistant.- Top cover - Acrylonitrile styrene acrylate (ASA).- Base and gear plate - Marine grade high-pressure die-cast aluminium (EN 1706 AC-44300)- LED Engine – Marine grade aluminium.- Protector – High-impact acrylic.- Coating – Light Grey (RAL 7047), Textured finish.- Installation – Bottom-entry Ø76.- Impact resistance - High-impact acrylic: IK 08.- Dimensions (WxH) – 578 x 324 Standard Version.- Weight (with gear) – 4.9kg.- Spigot length (mm) - ≥ 125- The aerodynamic resistance must be 0.08m^2. |
|--------------|--|

2.5.5. Environment

Storage temperature	- -40°C to +60°C
Operating temperature (Ta)	- -35°C to + 35°C
Enclosure Tightness	- IP 66
Enclosure Mechanical Withstand Impact	- IK 08
Enclosure Mechanical Withstand Vibrations	- Modified IEC 60068-2-6

2.5.6. Marking and Packaging

Except as specified otherwise, the method of marking must comply with SANS 60598-1 and shall be to the approval of the Client. A self-adhesive foil label must be applied to the outside of the luminaire in a position readily visible when the luminaire is mounted in position. The label must identify the type and the rating of the luminaire.

Luminaires must be delivered fully assembled and ready for use and packed in robust, triple-walled cardboard boxes each containing no more than one luminaire. A description of the luminaire, manufacturer, and model number must be marked on the outside of the box.

2.5.7. Mandatory Technical Returnable Documents

- Completed Technical Schedule 1
- Photometric Test Reports for Luminaire Offered
- SANS/IEC 60598-2-5 Type Test Report from SABS or any ILAC accredited Laboratory for Luminaire offered
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- Lighting Design Simulation for Luminaire offered
- Manufacturer's ISO 9001 Registration Certificate

2.5.8. Schedule 1: Schedule of Technical Data

LED Streetlight Luminaire

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
1	Manufacture Details			
1.1	Name of LED Luminaire Manufacture *		XXXXXXXXXX	
1.2	Manufacturer's ISO 9001 Registration Certificate Number		XXXXXXXXXX	
1.3	Manufacturer's ISO 9001 Registration Certificate *		Required	Yes / No
1.4	Location of Manufacture (Country) *		South Africa	
1.5	Local Content	%	≥ 80%	
1.6	Luminaire Type		LED Post Top	
1.7	Luminaire Model Name		XXXXXXXXXX	
2	Photometric Specifications			
2.1	Luminaire Lifetime Residual Flux at t _q 25 °C	Lm	95%	
2.2	Luminaire Efficacy (lm/W) *	Lm/W	≥ 147	
2.3	Colour Rendering Index (CRI) *		≥ 70	
2.4	Colour Temperature (Average) *	K	5700	
2.5	Nominal flux	lm	6300	
2.6	Maintenance factor	%	80	
2.7	Photometry Optic		Symmetrical	
3	Electrical Specifications			
3.1	Total Luminaire Power Minimum*	W	43W	
3.2	Minimum Energy Savings *	%	40 (minimum)	
3.3	Input Voltage	V AC	230 ± 10%	
3.4	Voltage Tolerance	V AC	198-264	
3.5	Input Frequency	Hz	50	
3.6	Power Factor *		≥ 0.95	
3.7	Total Harmonic Distortion *	%	≤ 20	
3.8	Safety Class *		Class 1	
3.9	Surge Protection *	KV&KA	≥ 10 & 10	
4	Mechanical specifications			
4.1	IP Rating *		≥ 66	
4.2	IK Rating *		≥ 08	
4.3	Luminaire Housing Material *		Aluminium	
4.4	Hinge pins, clips, clamps, set screws, bolts, nuts etc.		Stainless Steel (Grade 304)	
4.5	Optical compartment cover material		XXXXXXXXXX	
4.6	Reflector Material		XXXXXXXXXX	
4.7	Lens Material		XXXXXXXXXX	
4.8	Diffuser Material		XXXXXXXXXX	
4.9	Luminaire Dimensions (W *H) *	mm	578 x 324	
4.10	Total Luminaire Weight *	Kg	4.9kg	
4.11	Luminaire installation angle(s) *	Deg	90	
4.12	Mounting Bracket for fitment on Mast *		XXXXXXXXXX	Yes / No *
4.13	Body Powder Coating		XXXXXXXXXX	Yes / No *
5	Thermal Management Specification			
5.1	Luminaire operating temperature range*	°C	0 - 40	
5.2	LED junction temperature at drive current, T _j (°C)	°C	XXXXXXXXXX	
5.3	Thermal cut-off temperature switch provided		XXXXXXXXXX	Yes / No *
5.4	Temperature test report *		Required	Yes / No *

Schedule 1 continues...

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

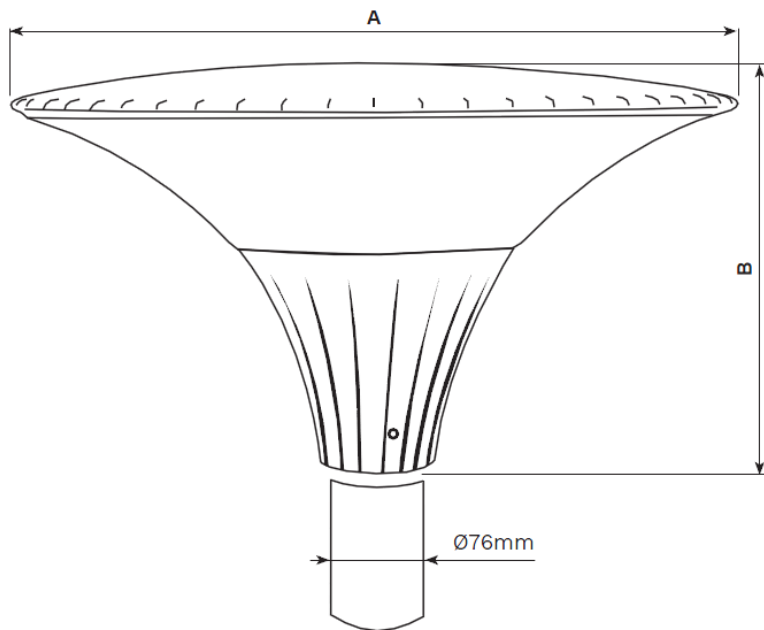
Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
6	Spare Parts Specifications			
6.1	LED Driver Part Number		XXXXXXXXXX	
6.2	LED Driver Make (Manufacture Name)		XXXXXXXXXX	
6.3	LED Module Part Number		XXXXXXXXXX	
6.4	LED Chip Make (Manufacture Name)		XXXXXXXXXX	
6.5	Surge Protection Part Number		XXXXXXXXXX	
6.6	Surge Protection Make (Manufacture Name)		XXXXXXXXXX	
7	Returnable Technical Documents			
7.1	Completed Schedule 1: Technical Data*		Required	Yes / No
7.2	Completed Schedule 2: Design Data*		Required	Yes / No
7.3	Photometric test reports		Required	Yes / No
7.4	SANS/IEC 60598-2-5 Product Type Test Report*		Required	Yes / No
7.5	Product Technical Datasheet*		Required	Yes / No
7.6	Instructional Installation Manual		Required	Yes / No
7.7	Endurance and thermal tests report		Required	Yes / No
7.8	Warranty Certificate *		Required	Yes / No
7.9	IES and/or LDT files *		Required	Yes / No
7.10	Lumen depreciation curves*		Required	Yes / No
7.11	Lighting Design Simulation *		Required	Yes / No
8	Warranties			
8.1	Luminaire Life Expectancy	yrs	10	
8.2	Lifetime Residual Flux	hrs	100 000 @ 95%	
8.3	Luminaire warranty*	yrs	5	
9	Delivery			
9.1	Lead Time for Delivery (from date of order)	days	XXXXXXXXXX	

***Mandatory**

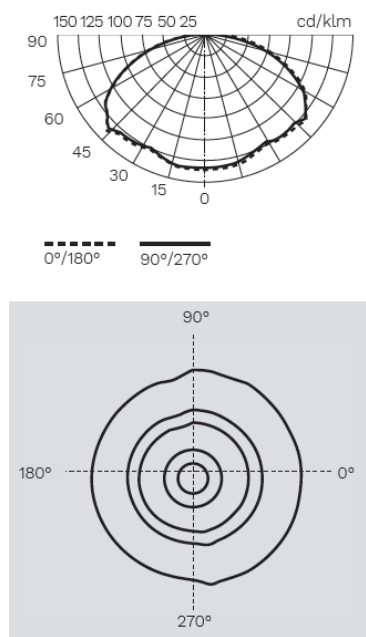
2.5.9. Performance Guarantee

All the luminaires offered shall have a minimum warranty period of 5 years. The scope of warranty shall include the luminaire housing, LED driver, and LED modules. The Luminaires which fail within the warranty period as a result of poor design, manufacturing and/or poor material component shall be replaced at no cost by the supplier.

2.5.10. Technical Drawing



2.5.11. Light Distribution



Bidding Company: _____

Name: _____ Signed: _____

Capacity of Signatory: _____ Date: _____

NOTE: All the materials must be SABS approved.

3. LED LUMINAIRE FOR CLASS A1 & BRT STREETS (122W MINIMUM)

3.1. Scope

The LED Luminaires shall be designed, manufactured and tested such that they can be incorporated with a Tele-Management system in the future. Although the Tele-Management system does not form part of scope of work in this tender, the tenderer shall ensure that the offered LED luminaires are compatible to a Tele-Management system.

The LED luminaires shall also operate satisfactorily when subjected to the following conditions:

- Nominal Supply Voltage: 230V AC ($\pm 10\%$)
- Nominal Supply Frequency: 50Hz ($\pm 10\%$)
- Climate: hot exterior - Inland
- Altitude: > 1000m
- Ambient Temperature: - 5 to +40 Degree Celsius
- Relative Humidity: 20% – 90%
- Average Annual Rainfall: 560mm per annum
- Pollution: Dust, Industrial

3.2. General Requirements

The LED Streetlight Luminaire shall comply with the requirements of SANS60598 and SANS475. This shall be supported by documentary evidence in the form of Type Test reports / Product certification. The LED luminaire shall be supplied as a complete unit, ready for use with all components fully assembled, including the luminaire housing, driver, LED modules, lenses, reflectors, wiring, mounting brackets, etc. In addition to the above requirements, the LED Luminaire offered by the supplier shall meet or exceed the requirements specified by the Purchaser in Schedule 1: Schedule of Technical Data. Schedule 1 forms part of this tender document and must be completed by the supplier as part of the tender submission data package.

The supplier shall also provide the following documents as part of the returnable:

- Completed technical schedule 1
- Photometric test reports for luminaire offered
- SANS/IEC 60598-2-5 Product Type Test Report
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- The Local Content for the manufacturing of the LED luminaire in the Republic of South Africa must be at least 80%

3.3. Normative References

The following standards contain provision that, whether referenced in the text or not, constitute requirements of this specification.

ARP 035	Guidelines for the installation and maintenance of street lighting
IEC 62471	Photo biological safety of lamps and lamp systems
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products
IES TM 21-11	Projecting Long Term Lumen Maintenance of LED Light Sources
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 215	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
SANS 475	Luminaires for interior lighting, street lighting and floodlighting — Performance requirements
SANS 529	Heat-resisting wiring cables
SANS 1088	Luminaire entries and spigots
SANS 1091	National Colour Standard
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) 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 10098-1	Public lighting Part 1: The lighting of public thoroughfares
SANS/IEC 51706	Aluminum and aluminum alloys – Castings – Chemical composition and mechanical properties
SANS/IEC 60529	Degrees of Protection provided by Enclosures (IP Code)
SANS/IEC 60598-1	Luminaires: Part 1. General Requirements and Tests
SANS 60598-2-3	Luminaires Part 2-3: Particular requirements - Luminaires for road and street lighting
SANS/IEC 60598-2-5	Luminaire: Particular requirements – luminaires for Floodlights
SANS/IEC 61000-3-2	Electromagnetic compatibility(EMC) Part 3-2: Limits — Limits for harmonic current emissions
SANS/IEC 61000-3-3	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flickering public low- voltage supply systems
SANS/IEC 61000-4-5	Surge immunity test – Testing and measurement
SANS/IEC 61347-1	Lamp control gear Part 1: General and safety requirements
SANS/IEC 61347-2-13	Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
SANS/IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
SANS/IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
SANS/IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
SANS 10098-2	Lighting of certain specific areas of street and highways
ISO 4762	Hexagon socket head cap screws
ISO 9001: 2008	Quality management systems
OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations

NB: Tenders offering equipment to standards other than those listed above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Note that the International (IEC) equivalence of SANS standards are generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

3.4. Definitions and Abbreviations

The definitions and abbreviation given in SANS/IEC 60598-1 / SANS / IEC 60598-2-5 / SANS 475 shall apply.

3.5. General Specifications

3.5.1. Product Description

- Side entry luminaire designed for optimized residential road, roads & motorways, car parks, pedestrian and perimeter lighting.
- The luminaire consists of a spigot base compartment and hinged LED engine top casting. This hinged design allows the easy installation of the LED engine and the stainless steel latches allows for easy closure achieving the IP 66 water ingress protection of the electronic components. The design can operate LEDs of up to 265W. The mains terminal connector enclosed inside a cavity on the spigot base for improved water ingress.
- The luminaire shall bear the SANS 60598-2-3 safety mark.
- The luminaire shall have a degree of protection that complies with SANS 60598-2-3:
 - LED compartment: IP 66
 - The IP rating is supported by a certified SABS test report.
- The LED engine, consisting of the LED light source and the power supply, can be easily replaced or upgraded. To maximize the reliability of the LED's, the photometrical engine is completely sealed to IP 66. This ensures that the photometric performance is maintained over time.
- Electronic temperature monitoring prevents overheating of LED's and power supply.
- The spigot base casting easily slides onto a 42mm outreach and secures with 2 x M8 grub screws. The two stainless steel latches make for easy tool free maintenance. It has a blade connector that allows for electrical disconnection as soon as the luminaire is opened.
- Manufactured from marine grade aluminium allows for corrosion resistance and optimal thermal management. A silicon sponge gasket fixed into a groove seals the spigot base casting to the LED engine casting to IP66.
- The high-impact clear glass protector allows for impact resistance of IK08 with the option of Polycarbonate protector with an impact resistance of IK10.
- All LED's have individual lenses for optimal light distribution for improved light performance. Additional anti-glare louvres and back light control is available.
- All control gear components are removable and bear the relevant SABS mark. All internal wiring is Teflon® coated to prevent damage by possible abrasion.
- All screws, bolts and metal parts are stainless steel or non-corrosive material. Mains connections by means of a suitable screw terminal block with a wire clamping contact. The luminaire power factor corrected to a minimum of 0,9.

- The IP66 LED housing compartment optimizes the thermal operating environment around the LEDs enabling the long useful lifetime (100 000hrs, L95B10). With the introduction of LED technology, dimming options are much easier and further maximize energy savings.
- Recommended mounting height = 10m - 15m

3.5.2. Photometric Performance Requirements

Light Source	- High Powered LED.
Area of LED	- 2mm ²
Number of LEDs	- Minimum of 80 LED's in the optical compartment.
Colour Temperature	- The colour temperature of the luminaires shall be Cool white 757, 5700K.
Colour Rendering (Ra)	- The colour rendering index shall be ≥70.
Power Consumption	<ul style="list-style-type: none"> - The LED current must be equal to 500mA with a source flux (lm) of minimum 20088 lumens at 165 lm/W or higher. - The LED current must be equal to 500mA with a luminaire flux (lm) of minimum 17678 lumens with an efficacy of 145 lm/W.
Maintenance Factor	- 80%
Photometry	- LensoFlex®4 photometric engines or similar photometric engines used for photometric distribution will be an advantage. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LED's in combination with the driving current that determines the intensity level of the light distribution. The LensoFlex®4 or equivalent concept must be used as a platform to build a state-of-the-art range of LED lighting solutions that provide significant energy savings and offer flexibility both in terms of performance and control while ensuring a long lifespan.
Photometry Optic	- 5305
Lifetime Residual Flux	- The lifetime residual flux is recommended to be 95% at 100 000h at an ambient temperature (Tq) of 25°C.

3.5.3. Electrical Requirements

Operating Voltage	- The LED Luminaire shall be subjected to operational nominal voltages rated at 230V AC ± 10%, with a Frequency of 50Hz ±10%.
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Voltage Tolerance	- The LED Luminaire shall be subjected to voltage tolerance (AC) between 198 – 264V.
Power Factor	- The minimum power factor shall be 0.95, and the harmonic distortion levels shall be limited to less than 20% so as not to cause interference on the electrical network.
Surge Protection	- A suitable surge protection device must be provided to protect the driver and the LED modules. The surge protection device shall be mounted inside the control gear compartment, and be easily replaceable. The surge protection device should be capable to withstand surges of up to 10KV/10KA. The supplier shall provide technical data sheets of the surge protection device integrated in the offered luminaire.
LED Driver	- The LED Driver shall comply with the requirements of SANS 61000-3-2, SANS 61000-3-3, SANS61000-4-5, SANS 61347-1, SANS 61347-2-13 and SANS 61547.
Wiring	- The wiring shall comply with the requirements of SANS 60598-1 and SANS 529. The wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperatures to which it will be subjected to during operation. The terminal blocks of the incoming supply cable shall be fixed independently, fastened, and housed inside the control gear compartment within the body of the luminaire. The terminal shall be indelibly marked either by means of colour coding or by the letters L, N & E.
Provision for Earthing	- The luminaire shall be earthed in accordance with the clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993). The Earthing of the luminaire shall comply with SANS60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal. The contact surface shall be bare metal and not be painted or varnished surfaces.

3.5.4. Mechanical Performance Requirements

Construction	<ul style="list-style-type: none"> - The luminaire housing must be robustly constructed from non-corrosive aluminium material to SANS/IEC 51706; and shall be weatherproof, hail proof, corrosion proof and vandal resistant. - Electronic Control Gear – Constant Current LED Driver IP 66. - Spigot base casting – Marine grade aluminium (EN 1706 AC-44300). - LED Engine – Marine grade aluminium. - Protector – High-impact clear glass. - Coating – Unpainted aluminium.
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- Installation – Side Entry Pole Mount.
- Fixing – Side Entry Pole Mount – 2 x M8 grub screws.
- Dimensions (LxWxH) – 345 x 618 x 111 Standard Version.
- Weight (with gear) – 9kg.
- Access – Yes.
- The spigot side entry shall comply with SANS 1088:1990 as follows: 4.2.4.4.1 For Type 2 luminaires (side entry), the inside diameter of the spigot entry shall be 50 mm to 55 mm with a depth of 125mm.
- The aerodynamic resistance must be 0.072m².

3.5.5. Thermal Management requirements

The LED luminaire shall contain a heatsink. The design of the luminaire and the heat sink shall ensure continuous effective cooling. The power supply should incorporate a thermal switch to prevent exceeding the case temperature for the maximum lifetime of the luminaire. The supplier shall provide in this tender document a detailed temperature testing report indicating how the luminaire manages its temperature and the effect it has on lumen maintenance.

Luminaires shall be suitable for operation at an ambient temperature, Ta, of 350 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.

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.

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.

Ferrous components shall be hot-dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application.

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 a hinging mechanism.

Various items/components such as the aluminium housings, printed circuit boards (PCB's), glass protectors, silicon gaskets and stainless steel latches/clips shall be manufactured (not simply assembled) in South Africa.

3.5.6. Marking and Packaging

Except as specified otherwise, the method of marking must comply with SANS 60598-1 and shall be to the approval of the Client. A self-adhesive foil label must be applied to the outside of the luminaire in a position readily visible when the luminaire is mounted in position. The label must identify the type and the rating of the luminaire.

Luminaires must be delivered fully assembled and ready for use and packed in robust, triple-walled cardboard boxes each containing no more than one luminaire. A description of the luminaire, manufacturer, and model number must be marked on the outside of the box.

3.5.7. Mandatory Technical Returnable Documents

- Completed Technical Schedule 1
- Photometric Test Reports for Luminaire Offered
- SANS/IEC 60598-2-5 Type Test Report from SABS or any ILAC accredited Laboratory for Luminaire offered
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- Lighting Design Simulation for Luminaire offered
- Manufacturer's ISO 9001 Registration Certificate

3.5.8. Schedule 1: Schedule of Technical Data

LED Streetlight Luminaire

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
1	Manufacture Details			
1.1	Name of LED Luminaire Manufacture *		XXXXXXXXXX	
1.2	Manufacturer's ISO 9001 Registration Certificate Number		XXXXXXXXXX	
1.3	Manufacturer's ISO 9001 Registration Certificate *		Required	Yes / No
1.4	Location of Manufacture (Country) *		South Africa	
1.5	Local Content	%	≥ 80%	
1.6	Luminaire Type		LED Streetlight	
1.7	Luminaire Model Name		XXXXXXXXXX	
2	Photometric Specifications			
2.1	Luminaire Lifetime Residual Flux at t _q 25 °C	Lm	95%	
2.2	Luminaire Efficacy (lm/W) *	Lm/W	≥ 145	
2.3	Colour Rendering Index (CRI) *		≥ 70	
2.4	Colour Temperature (Average) *	K	5700	
2.5	Source flux	lm	20088	
2.6	Luminaire flux	lm	17785	
2.7	Maintenance factor	%	80	
2.8	Photometry Optic		5305	
3	Electrical Specifications			
3.1	Total Luminaire Power Minimum*	W	122W	
3.2	Minimum Energy Savings *	%	40 (minimum)	
3.3	Input Voltage	V AC	230 ± 10%	
3.4	Voltage Tolerance	V AC	198-264	
3.5	Input Frequency	Hz	50	
3.6	Power Factor *		≥0.95	
3.7	Total Harmonic Distortion *	%	≤ 20	
3.8	Safety Class *		Class 1	
3.9	Surge Protection *	kV&kA	≥ 10 & 10	
4	Mechanical specifications			
4.1	IP Rating *		≥ 66	
4.2	IK Rating *		≥ 08	
4.3	Luminaire Housing Material *		Aluminium	
4.4	Hinge pins, clips, clamps, set screws, bolts, nuts etc.		Stainless Steel (Grade 304)	
4.5	Optical compartment cover material		XXXXXXXXXX	
4.6	Reflector Material		XXXXXXXXXX	
4.7	Lens Material		XXXXXXXXXX	
4.8	Diffuser Material		XXXXXXXXXX	
4.9	Luminaire Dimensions (L*W *H) *	mm	345 x 618 x 111	
4.10	Total Luminaire Weight *	Kg	9kg	
4.11	Luminaire installation angle(s) *	Deg	15	
4.12	Mounting Bracket for fitment on Mast *		XXXXXXXXXX	Yes / No *
4.13	Body Powder Coating		XXXXXXXXXX	Yes / No *
5	Thermal Management Specification			
5.1	Luminaire operating temperature range*	°C	0 - 40	
5.2	LED junction temperature at drive current, T _j (°C)	°C	XXXXXXXXXX	
5.3	Thermal cut-off temperature switch provided		XXXXXXXXXX	Yes / No *
5.4	Temperature test report *		Required	Yes / No *

Schedule 1 continues...

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

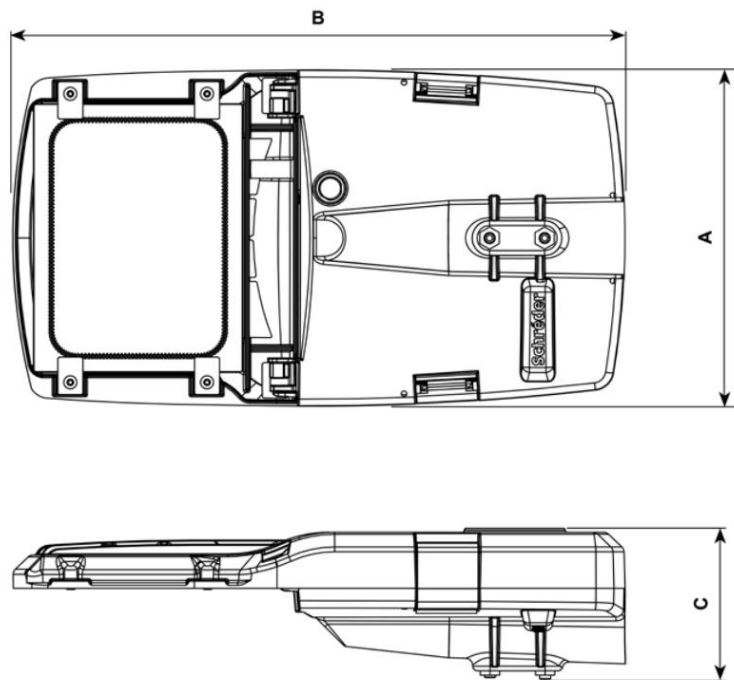
Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
6	Spare Parts Specifications			
6.1	LED Driver Part Number		XXXXXXXXXX	
6.2	LED Driver Make (Manufacture Name)		XXXXXXXXXX	
6.3	LED Module Part Number		XXXXXXXXXX	
6.4	LED Chip Make (Manufacture Name)		XXXXXXXXXX	
6.5	Surge Protection Part Number		XXXXXXXXXX	
6.6	Surge Protection Make (Manufacture Name)		XXXXXXXXXX	
7	Returnable Technical Documents			
7.1	Completed Schedule 1: Technical Data*		Required	Yes / No
7.2	Completed Schedule 2: Design Data*		Required	Yes / No
7.3	Photometric test reports		Required	Yes / No
7.4	SANS/IEC 60598-2-5 Product Type Test Report*		Required	Yes / No
7.5	Product Technical Datasheet*		Required	Yes / No
7.6	Instructional Installation Manual		Required	Yes / No
7.7	Endurance and thermal tests report		Required	Yes / No
7.8	Warranty Certificate *		Required	Yes / No
7.9	IES and/or LDT files *		Required	Yes / No
7.10	Lumen depreciation curves*		Required	Yes / No
7.11	Lighting Design Simulation *		Required	Yes / No
8	Warranties			
8.1	Luminaire Life Expectancy	yrs	10	
8.2	Lifetime Residual Flux	hrs	100 000 @ 95%	
8.3	Luminaire warranty*	yrs	5	
9	Delivery			
9.1	Lead Time for Delivery (from date of order)	days	XXXXXXXXXX	

***Mandatory**

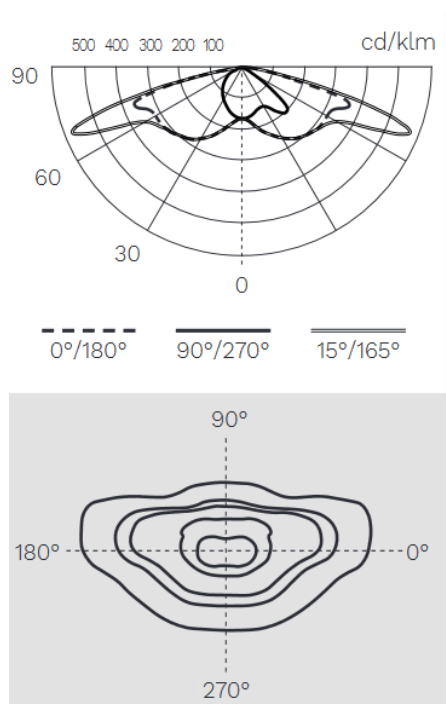
3.5.9. Performance Guarantee

All the luminaires offered shall have a minimum warranty period of 5 years. The scope of warranty shall include the luminaire housing, LED driver, and LED modules. The Luminaires which fail within the warranty period as a result of poor design, manufacturing and/or poor material component shall be replaced at no cost by the supplier.

3.5.10. Technical Drawing



3.5.11. Light Distribution



Bidding Company: _____

Name: _____

Signed: _____

Capacity of Signatory: _____

Date: _____

4. LED LUMINAIRE FOR CLASS A2, A3 & A4 STREETS (78W MINIMUM)

4.1. Scope

The LED Luminaires shall be designed, manufactured and tested such that they can be incorporated with a Tele-Management system in the future. Although the Tele-Management system does not form part of scope of work in this tender, the tenderer shall ensure that the offered LED luminaires are compatible to a Tele-Management system.

The LED luminaires shall also operate satisfactorily when subjected to the following conditions:

- Nominal Supply Voltage: 230V AC ($\pm 10\%$)
- Nominal Supply Frequency: 50Hz ($\pm 10\%$)
- Climate: hot exterior - Inland
- Altitude: > 1000m
- Ambient Temperature: - 5 to +40 Degree Celsius
- Relative Humidity: 20% – 90%
- Average Annual Rainfall: 560mm per annum
- Pollution: Dust, Industrial

4.2. General Requirements

The LED Streetlight Luminaire shall comply with the requirements of SANS60598 and SANS475. this shall be supported by documentary evidence in the form of Type Test reports / Product certification. The LED luminaire shall be supplied as a complete unit, ready for use with all components fully assembled, including the luminaire housing, driver, LED modules, lenses, reflectors, wiring, mounting brackets, etc. In addition to the above requirements, the LED Luminaire offered by the supplier shall meet or exceed the requirements specified by the Purchaser in Schedule 1: Schedule of Technical Data. Schedule 1 forms part of this tender document and must be completed by the supplier as part of the tender submission data package.

The supplier shall also provide the following documents as part of the returnable:

- Completed technical schedule 1
- Photometric test reports for luminaire offered
- SANS/IEC 60598-2-5 Product Type Test Report
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- The Local Content for the manufacturing of the LED luminaire in the Republic of South Africa must be at least 80%

4.3. Normative References

The following standards contain provision that, whether referenced in the text or not, constitute requirements of this specification.

ARP 035	Guidelines for the installation and maintenance of street lighting
IEC 62471	Photo biological safety of lamps and lamp systems
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products
IES TM 21-11	Projecting Long Term Lumen Maintenance of LED Light Sources
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 215	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
SANS 475	Luminaires for interior lighting, street lighting and floodlighting — Performance requirements
SANS 529	Heat-resisting wiring cables
SANS 1088	Luminaire entries and spigots
SANS 1091	National Colour Standard
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) 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 10098-1	Public lighting Part 1: The lighting of public thoroughfares
SANS/IEC 51706	Aluminum and aluminum alloys – Castings – Chemical composition and mechanical properties
SANS/IEC 60529	Degrees of Protection provided by Enclosures (IP Code)
SANS/IEC 60598-1	Luminaires: Part 1. General Requirements and Tests
SANS 60598-2-3	Luminaires Part 2-3: Particular requirements - Luminaires for road and street lighting
SANS/IEC 60598-2-5	Luminaire: Particular requirements – luminaires for Floodlights
SANS/IEC 61000-3-2	Electromagnetic compatibility(EMC) Part 3-2: Limits — Limits for harmonic current emissions
SANS/IEC 61000-3-3	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flickering public low- voltage supply systems
SANS/IEC 61000-4-5	Surge immunity test – Testing and measurement
SANS/IEC 61347-1	Lamp control gear Part 1: General and safety requirements
SANS/IEC 61347-2-13	Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
SANS/IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
SANS/IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
SANS/IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
SANS 10098-2	Lighting of certain specific areas of street and highways
ISO 4762	Hexagon socket head cap screws
ISO 9001: 2008	Quality management systems
OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations

NB: Tenders offering equipment to standards other than those listed above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Note that the International (IEC) equivalence of SANS standards are generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

4.4. Definitions and Abbreviations

The definitions and abbreviation given in SANS/IEC 60598-1 / SANS / IEC 60598-2-5 / SANS 475 shall apply.

4.5. General Specifications

4.5.1. Product Description

- Side entry luminaire designed for optimized residential road, roads & motorways, car parks, pedestrian and perimeter lighting.
- The luminaire consists of a spigot base compartment and hinged LED engine top casting. This hinged design allows the easy installation of the LED engine and the stainless steel latches allows for easy closure achieving the IP 66 water ingress protection of the electronic components. The design can operate LEDs of up to 265W. The mains terminal connector enclosed inside a cavity on the spigot base for improved water ingress.
- The luminaire shall bear the SANS 60598-2-3 safety mark.
- The luminaire shall have a degree of protection that complies with SANS 60598-2-3:
 - LED compartment: IP 66
 - The IP rating is supported by a certified SABS test report.
- The LED engine, consisting of the LED light source and the power supply, can be easily replaced or upgraded. To maximize the reliability of the LED's, the photometrical engine is completely sealed to IP 66. This ensures that the photometric performance is maintained over time.
- Electronic temperature monitoring prevents overheating of LED's and power supply.
- The spigot base casting easily slides onto a 42mm outreach and secures with 2 x M8 grub screws. The two stainless steel latches make for easy tool free maintenance. It has a blade connector that allows for electrical disconnection as soon as the luminaire is opened.
- Manufactured from marine grade aluminium allows for corrosion resistance and optimal thermal management. A silicon sponge gasket fixed into a groove seals the spigot base casting to the LED engine casting to IP66.
- The high-impact clear glass protector allows for impact resistance of IK08 with the option of Polycarbonate protector with an impact resistance of IK10.
- All LED's have individual lenses for optimal light distribution for improved light performance. Additional anti-glare louvres and back light control is available.
- All control gear components are removable and bear the relevant SABS mark. All internal wiring is Teflon® coated to prevent damage by possible abrasion.
- All screws, bolts and metal parts are stainless steel or non-corrosive material. Mains connections by means of a suitable screw terminal block with a wire clamping contact. The luminaire power factor corrected to a minimum of 0,9.
- The IP66 LED housing compartment optimizes the thermal operating environment around the LEDs enabling the long useful lifetime (100 000hrs, L95B10). With the

introduction of LED technology, dimming options are much easier and further maximize energy savings.

- Recommended mounting height = 10m - 15m

4.5.2. Photometric Performance Requirements

Light Source	- High Powered LED.
Area of LED	- 2mm ²
Number of LEDs	- Minimum of 50 LED's in the optical compartment.
Colour Temperature	- The colour temperature of the luminaires shall be Cool white 757, 5700K.
Colour Rendering (Ra)	- The colour rendering index shall be ≥70.
Power Consumption	<ul style="list-style-type: none"> - The LED current must be equal to 500mA with a source flux (lm) of minimum 12555 lumens at 161 lm/W or higher. - The LED current must be equal to 500mA with a luminaire flux (lm) of minimum 11048 lumens with an efficacy of 142 lm/W.
Maintenance Factor	- 80%
Photometry	- LensoFlex®4 photometric engines or similar photometric engines used for photometric distribution will be an advantage. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LED's in combination with the driving current that determines the intensity level of the light distribution. The LensoFlex®4 or equivalent concept must be used as a platform to build a state-of-the-art range of LED lighting solutions that provide significant energy savings and offer flexibility both in terms of performance and control while ensuring a long lifespan.
Photometry Optic	- 5305
Lifetime Residual Flux	- The lifetime residual flux is recommended to be 95% at 100 000h at an ambient temperature (Tq) of 25°C.

4.5.3. Electrical Requirements

Operating Voltage	- The LED Luminaire shall be subjected to operational nominal voltages rated at 230V AC ± 10%, with a Frequency of 50Hz ±10%.
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Voltage Tolerance	- The LED Luminaire shall be subjected to voltage tolerance (AC) between 198 – 264V.
Power Factor	- The minimum power factor shall be 0.95, and the harmonic distortion levels shall be limited to less than 20% so as not to cause interference on the electrical network.
Surge Protection	- A suitable surge protection device must be provided to protect the driver and the LED modules. The surge protection device shall be mounted inside the control gear compartment, and be easily replaceable. The surge protection device should be capable to withstand surges of up to 10KV/10KA. The supplier shall provide technical data sheets of the surge protection device integrated in the offered luminaire.
LED Driver	- The LED Driver shall comply with the requirements of SANS 61000-3-2, SANS 61000-3-3, SANS61000-4-5, SANS 61347-1, SANS 61347-2-13 and SANS 61547.
Wiring	- The wiring shall comply with the requirements of SANS 60598-1 and SANS 529. The wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperatures to which it will be subjected to during operation. The terminal blocks of the incoming supply cable shall be fixed independently, fastened, and housed inside the control gear compartment within the body of the luminaire. The terminal shall be indelibly marked either by means of colour coding or by the letters L, N & E.
Provision for Earthing	- The luminaire shall be earthed in accordance with the clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993). The Earthing of the luminaire shall comply with SANS60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal. The contact surface shall be bare metal and not be painted or varnished surfaces.

4.5.4. Mechanical Performance Requirements

Construction	<ul style="list-style-type: none"> - The luminaire housing must be robustly constructed from non-corrosive aluminium material to SANS/IEC 51706; and shall be weatherproof, hail proof, corrosion proof and vandal resistant. - Electronic Control Gear – Constant Current LED Driver IP 66. - Spigot base casting – Marine grade aluminium (EN 1706 AC-44300). - LED Engine – Marine grade aluminium. - Protector – High-impact clear glass. - Coating – Unpainted aluminium. - Installation – Side Entry Pole Mount.
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- Fixing – Side Entry Pole Mount – 2 x M8 grub screws.
- Dimensions (LxWxH) – 345 x 618 x 111 Standard Version.
- Weight (with gear) – 9kg.
- Access – Yes.
- The spigot side entry shall comply with SANS 1088:1990 as follows: 4.2.4.4.1 For Type 2 luminaires (side entry), the inside diameter of the spigot entry shall be 50 mm to 55 mm with a depth of 125mm.
- The aerodynamic resistance must be 0.072m².

4.5.5. Thermal Management requirements

The LED luminaire shall contain a heatsink. The design of the luminaire and the heat sink shall ensure continuous effective cooling. The power supply should incorporate a thermal switch to prevent exceeding the case temperature for the maximum lifetime of the luminaire. The supplier shall provide in this tender document a detailed temperature testing report indicating how the luminaire manages its temperature and the effect it has on lumen maintenance.

Luminaires shall be suitable for operation at an ambient temperature, Ta, of 350 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.

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.

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.

Ferrous components shall be hot-dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application.

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 a hinging mechanism.

Various items/components such as the aluminium housings, printed circuit boards (PCB's), glass protectors, silicon gaskets and stainless steel latches/clips shall be manufactured (not simply assembled) in South Africa.

4.5.6. Marking and Packaging

Except as specified otherwise, the method of marking must comply with SANS 60598-1 and shall be to the approval of the Client. A self-adhesive foil label must be applied to the outside of the luminaire in a position readily visible when the luminaire is mounted in position. The label must identify the type and the rating of the luminaire.

Luminaires must be delivered fully assembled and ready for use and packed in robust, triple-walled cardboard boxes each containing no more than one luminaire. A description of the luminaire, manufacturer, and model number must be marked on the outside of the box.

4.5.7. Mandatory Technical Returnable Documents

- Completed Technical Schedule 1
- Photometric Test Reports for Luminaire Offered
- SANS/IEC 60598-2-5 Type Test Report from SABS or any ILAC accredited Laboratory for Luminaire offered
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- Lighting Design Simulation for Luminaire offered
- Manufacturer's ISO 9001 Registration Certificate

4.5.8. Schedule 1: Schedule of Technical Data

LED Streetlight Luminaire

Schedule 1 – Part A: Client's Specific Technical Requirements
Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
1	Manufacture Details			
1.1	Name of LED Luminaire Manufacture *		XXXXXXXXXX	
1.2	Manufacturer's ISO 9001 Registration Certificate Number		XXXXXXXXXX	
1.3	Manufacturer's ISO 9001 Registration Certificate *		Required	Yes / No
1.4	Location of Manufacture (Country) *		South Africa	
1.5	Local Content	%	≥ 80%	
1.6	Luminaire Type		LED Streetlight	
1.7	Luminaire Model Name		XXXXXXXXXX	
2	Photometric Specifications			
2.1	Luminaire Lifetime Residual Flux at t _q 25 °C	Lm	95%	
2.2	Luminaire Efficacy (lm/W) *	Lm/W	≥ 146	
2.3	Colour Rendering Index (CRI) *		≥ 70	
2.4	Colour Temperature (Average) *	K	5700	
2.5	Source flux	lm	12555	
2.6	Luminaire flux	lm	11048	
2.7	Maintenance factor	%	80	
2.8	Photometry Optic		5305	
3	Electrical Specifications			
3.1	Total Luminaire Power Minimum*	W	78W	
3.2	Minimum Energy Savings *	%	40 (minimum)	
3.3	Input Voltage	V AC	230 ± 10%	
3.4	Voltage Tolerance	V AC	198-264	
3.5	Input Frequency	Hz	50	
3.6	Power Factor *		≥0.95	
3.7	Total Harmonic Distortion *	%	≤ 20	
3.8	Safety Class *		Class 1	
3.9	Surge Protection *	KV&KA	≥ 10 & 10	
4	Mechanical specifications			
4.1	IP Rating *		≥ 66	
4.2	IK Rating *		≥ 08	
4.3	Luminaire Housing Material *		Aluminium	
4.4	Hinge pins, clips, clamps, set screws, bolts, nuts etc.		Stainless Steel (Grade 304)	
4.5	Optical compartment cover material		XXXXXXXXXX	
4.6	Reflector Material		XXXXXXXXXX	
4.7	Lens Material		XXXXXXXXXX	
4.8	Diffuser Material		XXXXXXXXXX	
4.9	Luminaire Dimensions (L*W *H) *	mm	345 x 618 x 111	
4.10	Total Luminaire Weight *	Kg	9kg	
4.11	Luminaire installation angle(s) *	Deg	15	
4.12	Mounting Bracket for fitment on Mast *		XXXXXXXXXX	Yes / No *
4.13	Body Powder Coating		XXXXXXXXXX	Yes / No *
5	Thermal Management Specification			
5.1	Luminaire operating temperature range*	°C	0 - 40	
5.2	LED junction temperature at drive current, T _j (°C)	°C	XXXXXXXXXX	
5.3	Thermal cut-off temperature switch provided		XXXXXXXXXX	Yes / No *
5.4	Temperature test report *		Required	Yes / No *

Schedule 1 continues...

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

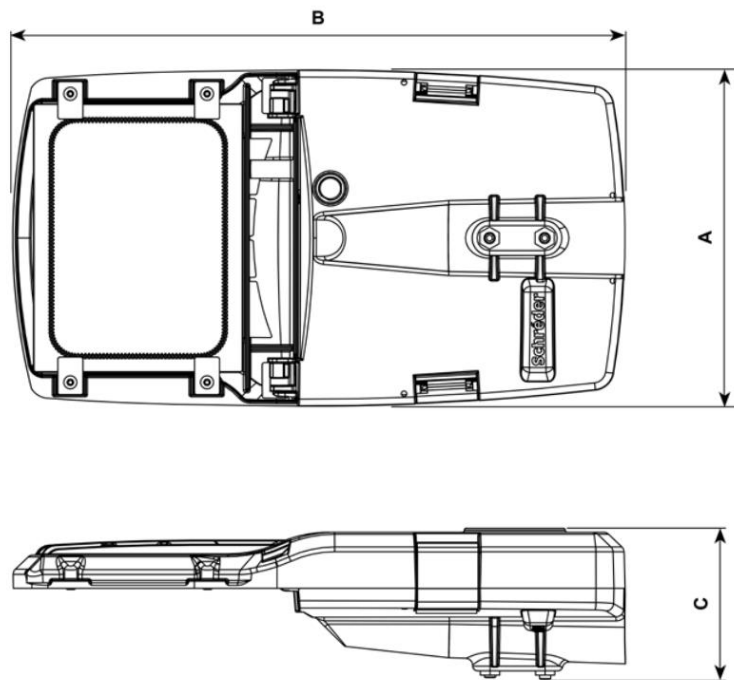
Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
6	Spare Parts Specifications			
6.1	LED Driver Part Number		XXXXXXXXXX	
6.2	LED Driver Make (Manufacture Name)		XXXXXXXXXX	
6.3	LED Module Part Number		XXXXXXXXXX	
6.4	LED Chip Make (Manufacture Name)		XXXXXXXXXX	
6.5	Surge Protection Part Number		XXXXXXXXXX	
6.6	Surge Protection Make (Manufacture Name)		XXXXXXXXXX	
7	Returnable Technical Documents			
7.1	Completed Schedule 1: Technical Data*		Required	Yes / No
7.2	Completed Schedule 2: Design Data*		Required	Yes / No
7.3	Photometric test reports		Required	Yes / No
7.4	SANS/IEC 60598-2-5 Product Type Test Report*		Required	Yes / No
7.5	Product Technical Datasheet*		Required	Yes / No
7.6	Instructional Installation Manual		Required	Yes / No
7.7	Endurance and thermal tests report		Required	Yes / No
7.8	Warranty Certificate *		Required	Yes / No
7.9	IES and/or LDT files *		Required	Yes / No
7.10	Lumen depreciation curves*		Required	Yes / No
7.11	Lighting Design Simulation *		Required	Yes / No
8	Warranties			
8.1	Luminaire Life Expectancy	yrs	10	
8.2	Lifetime Residual Flux	hrs	100 000 @ 95%	
8.3	Luminaire warranty*	yrs	5	
9	Delivery			
9.1	Lead Time for Delivery (from date of order)	days	XXXXXXXXXX	

***Mandatory**

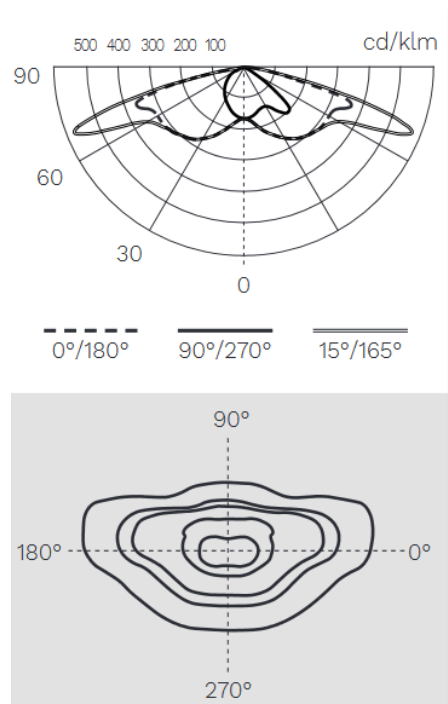
4.5.9. Performance Guarantee

All the luminaires offered shall have a minimum warranty period of 5 years. The scope of warranty shall include the luminaire housing, LED driver, and LED modules. The Luminaires which fail within the warranty period as a result of poor design, manufacturing and/or poor material component shall be replaced at no cost by the supplier.

4.5.10. Technical Drawing



4.5.11. Light Distribution



Bidding Company: _____

Name: _____ Signed: _____

Capacity of Signatory: _____ Date: _____

5. LED LUMINAIRE FOR CLASS B & C STREETS (47W MINIMUM)

5.1. Scope

The LED Luminaires shall be designed, manufactured and tested such that they can be incorporated with a Tele-Management system in the future. Although the Tele-Management system does not form part of scope of work in this tender, the tenderer shall ensure that the offered LED luminaires are compatible to a Tele-Management system.

The LED luminaires shall also operate satisfactorily when subjected to the following conditions:

- Nominal Supply Voltage: 230V AC ($\pm 10\%$)
- Nominal Supply Frequency: 50Hz ($\pm 10\%$)
- Climate: hot exterior - Inland
- Altitude: > 1000m
- Ambient Temperature: - 5 to +40 Degree Celsius
- Relative Humidity: 20% – 90%
- Average Annual Rainfall: 560mm per annum
- Pollution: Dust, Industrial

5.2. General Requirements

The LED Streetlight Luminaire shall comply with the requirements of SANS60598 and SANS475. this shall be supported by documentary evidence in the form of Type Test reports / Product certification. The LED luminaire shall be supplied as a complete unit, ready for use with all components fully assembled, including the luminaire housing, driver, LED modules, lenses, reflectors, wiring, mounting brackets, etc. In addition to the above requirements, the LED Luminaire offered by the supplier shall meet or exceed the requirements specified by the Purchaser in Schedule 1: Schedule of Technical Data. Schedule 1 forms part of this tender document and must be completed by the supplier as part of the tender submission data package.

The supplier shall also provide the following documents as part of the returnable:

- Completed technical schedule 1
- Photometric test reports for luminaire offered
- SANS/IEC 60598-2-5 Product Type Test Report
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- The Local Content for the manufacturing of the LED luminaire in the Republic of South Africa must be at least 80%

5.3. Normative References

The following standards contain provision that, whether referenced in the text or not, constitute requirements of this specification.

ARP 035	Guidelines for the installation and maintenance of street lighting
IEC 62471	Photo biological safety of lamps and lamp systems
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products
IES TM 21-11	Projecting Long Term Lumen Maintenance of LED Light Sources
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 215	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
SANS 475	Luminaires for interior lighting, street lighting and floodlighting — Performance requirements
SANS 529	Heat-resisting wiring cables
SANS 1088	Luminaire entries and spigots
SANS 1091	National Colour Standard
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) 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 10098-1	Public lighting Part 1: The lighting of public thoroughfares
SANS/IEC 51706	Aluminum and aluminum alloys – Castings – Chemical composition and mechanical properties
SANS/IEC 60529	Degrees of Protection provided by Enclosures (IP Code)
SANS/IEC 60598-1	Luminaires: Part 1. General Requirements and Tests
SANS 60598-2-3	Luminaires Part 2-3: Particular requirements - Luminaires for road and street lighting
SANS/IEC 60598-2-5	Luminaire: Particular requirements – luminaires for Floodlights
SANS/IEC 61000-3-2	Electromagnetic compatibility(EMC) Part 3-2: Limits — Limits for harmonic current emissions
SANS/IEC 61000-3-3	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flickering public low- voltage supply systems
SANS/IEC 61000-4-5	Surge immunity test – Testing and measurement
SANS/IEC 61347-1	Lamp control gear Part 1: General and safety requirements
SANS/IEC 61347-2-13	Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
SANS/IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
SANS/IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
SANS/IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
SANS 10098-2	Lighting of certain specific areas of street and highways
ISO 4762	Hexagon socket head cap screws
ISO 9001: 2008	Quality management systems
OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations

NB: Tenders offering equipment to standards other than those listed above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Note that the International (IEC) equivalence of SANS standards are generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

5.4. Definitions and Abbreviations

The definitions and abbreviation given in SANS/IEC 60598-1 / SANS / IEC 60598-2-5 / SANS 475 shall apply.

5.5. General Specifications

5.5.1. Product Description

- Side entry luminaire designed for optimized residential road, roads & motorways, car parks, pedestrian and perimeter lighting.
- The luminaire consists of a spigot base compartment and hinged LED engine top casting. This hinged design allows the easy installation of the LED engine and the stainless steel latches allows for easy closure achieving the IP 66 water ingress protection of the electronic components. The design can operate LEDs of up to 265W. The mains terminal connector enclosed inside a cavity on the spigot base for improved water ingress.
- The luminaire shall bear the SANS 60598-2-3 safety mark.
- The luminaire shall have a degree of protection that complies with SANS 60598-2-3:
 - LED compartment: IP 66
 - The IP rating is supported by a certified SABS test report.
- The LED engine, consisting of the LED light source and the power supply, can be easily replaced or upgraded. To maximize the reliability of the LED's, the photometric engine is completely sealed to IP 66. This ensures that the photometric performance is maintained over time.
- Electronic temperature monitoring prevents overheating of LED's and power supply.
- The spigot base casting easily slides onto a 42mm outreach and secures with 2 x M8 grub screws. The two stainless steel latches make for easy tool free maintenance. It has a blade connector that allows for electrical disconnection as soon as the luminaire is opened.
- Manufactured from marine grade aluminium allows for corrosion resistance and optimal thermal management. A silicon sponge gasket fixed into a groove seals the spigot base casting to the LED engine casting to IP66.
- The high-impact clear glass protector allows for impact resistance of IK08 with the option of Polycarbonate protector with an impact resistance of IK10.
- All LED's have individual lenses for optimal light distribution for improved light performance. Additional anti-glare louvres and back light control is available.
- All control gear components are removable and bear the relevant SABS mark. All internal wiring is Teflon® coated to prevent damage by possible abrasion.
- All screws, bolts and metal parts are stainless steel or non-corrosive material. Mains connections by means of a suitable screw terminal block with a wire clamping contact. The luminaire power factor corrected to a minimum of 0,9.
- The IP66 LED housing compartment optimizes the thermal operating environment around the LEDs enabling the long useful lifetime (100 000hrs, L95B10). With the

introduction of LED technology, dimming options are much easier and further maximize energy savings.

- Recommended mounting height = 7.2m - 10m

5.5.2. Photometric Performance Requirements

Light Source	- High Powered LED.
Area of LED	- 2mm ²
Number of LEDs	- Minimum of 40 LED's in the optical compartment.
Colour Temperature	- The colour temperature of the luminaires shall be Cool white 757, 5700K.
Colour Rendering (Ra)	- The colour rendering index shall be ≥70.
Power Consumption	<ul style="list-style-type: none">- The LED current must be equal to 350mA with a source flux (lm) of minimum 7560 lumens at 175 lm/W or higher.- The LED current must be equal to 350mA with a luminaire flux (lm) of minimum 6058 lumens with an efficacy of 140 lm/W.
Maintenance Factor	- 80%
Photometry	- LensoFlex®4 photometric engines or similar photometric engines used for photometric distribution will be an advantage. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LED's in combination with the driving current that determines the intensity level of the light distribution. The LensoFlex®4 or equivalent concept must be used as a platform to build a state-of-the-art range of LED lighting solutions that provide significant energy savings and offer flexibility both in terms of performance and control while ensuring a long lifespan.
Photometry Optic	- 5305
Lifetime Residual Flux	- The lifetime residual flux is recommended to be 95% at 100 000h at an ambient temperature (Tq) of 25°C.

5.5.3. Electrical Requirements

Operating Voltage	- The LED Luminaire shall be subjected to operational nominal voltages rated at 230V AC ± 10%, with a Frequency of 50Hz ±10%.
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Voltage Tolerance	- The LED Luminaire shall be subjected to voltage tolerance (AC) between 198 – 264V.
Power Factor	- The minimum power factor shall be 0.95, and the harmonic distortion levels shall be limited to less than 20% so as not to cause interference on the electrical network.
Surge Protection	- A suitable surge protection device must be provided to protect the driver and the LED modules. The surge protection device shall be mounted inside the control gear compartment, and be easily replaceable. The surge protection device should be capable to withstand surges of up to 10KV/10KA. The supplier shall provide technical data sheets of the surge protection device integrated in the offered luminaire.
LED Driver	- The LED Driver shall comply with the requirements of SANS 61000-3-2, SANS 61000-3-3, SANS61000-4-5, SANS 61347-1, SANS 61347-2-13 and SANS 61547.
Wiring	- The wiring shall comply with the requirements of SANS 60598-1 and SANS 529. The wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperatures to which it will be subjected to during operation. The terminal blocks of the incoming supply cable shall be fixed independently, fastened, and housed inside the control gear compartment within the body of the luminaire. The terminal shall be indelibly marked either by means of colour coding or by the letters L, N & E.
Provision for Earthing	- The luminaire shall be earthed in accordance with the clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993). The Earthing of the luminaire shall comply with SANS60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal. The contact surface shall be bare metal and not be painted or varnished surfaces.

5.5.4. Mechanical Performance Requirements

Construction	<ul style="list-style-type: none"> - The luminaire housing must be robustly constructed from non-corrosive aluminium material to SANS/IEC 51706; and shall be weatherproof, hail proof, corrosion proof and vandal resistant. - Electronic Control Gear – Constant Current LED Driver IP 66. - Spigot base casting – Marine grade aluminium (EN 1706 AC-44300). - LED Engine – Marine grade aluminium. - Protector – High-impact clear glass. - Coating – Unpainted aluminium. - Installation – Side Entry Pole Mount.
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- Fixing – Side Entry Pole Mount – 2 x M8 grub screws.
- Dimensions (LxWxH) – 535 x 244 x 107 Standard Version.
- Weight (with gear) – 4.5kg.
- Access – Yes.
- The spigot side entry shall comply with SANS 1088:1990 as follows: 4.2.4.4.1 For Type 2 luminaires (side entry), the inside diameter of the spigot entry shall be 50 mm to 55 mm with a depth of 125mm.
- The aerodynamic resistance must be 0.057m².

5.5.5. Thermal Management requirements

The LED luminaire shall contain a heatsink. The design of the luminaire and the heat sink shall ensure continuous effective cooling. The power supply should incorporate a thermal switch to prevent exceeding the case temperature for the maximum lifetime of the luminaire. The supplier shall provide in this tender document a detailed temperature testing report indicating how the luminaire manages its temperature and the effect it has on lumen maintenance.

Luminaires shall be suitable for operation at an ambient temperature, Ta, of 350 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.

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.

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.

Ferrous components shall be hot-dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application.

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 a hinging mechanism.

Various items/components such as the aluminium housings, printed circuit boards (PCB's), glass protectors, silicon gaskets and stainless steel latches/clips shall be manufactured (not simply assembled) in South Africa.

5.5.6. Marking and Packaging

Except as specified otherwise, the method of marking must comply with SANS 60598-1 and shall be to the approval of the Client. A self-adhesive foil label must be applied to the outside of the luminaire in a position readily visible when the luminaire is mounted in position. The label must identify the type and the rating of the luminaire.

Luminaires must be delivered fully assembled and ready for use and packed in robust, triple-walled cardboard boxes each containing no more than one luminaire. A description of the luminaire, manufacturer, and model number must be marked on the outside of the box.

5.5.7. Mandatory Technical Returnable Documents

- Completed Technical Schedule 1
- Photometric Test Reports for Luminaire Offered
- SANS/IEC 60598-2-5 Type Test Report from SABS or any ILAC accredited Laboratory for Luminaire offered
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- Lighting Design Simulation for Luminaire offered
- Manufacturer's ISO 9001 Registration Certificate

5.5.8. Schedule 1: Schedule of Technical Data

LED Streetlight Luminaire

Schedule 1 – Part A:

Client's Specific Technical Requirements

Schedule 1 – Part B:

Guarantees and Technical Particulars of LED Luminaire offered

Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
1	Manufacture Details			
1.1	Name of LED Luminaire Manufacture *		XXXXXXXXXX	
1.2	Manufacturer's ISO 9001 Registration Certificate Number		XXXXXXXXXX	
1.3	Manufacturer's ISO 9001 Registration Certificate *		Required	Yes / No
1.4	Location of Manufacture (Country) *		South Africa	
1.5	Local Content	%	≥ 80%	
1.6	Luminaire Type		LED Streetlight	
1.7	Luminaire Model Name		XXXXXXXXXX	
2	Photometric Specifications			
2.1	Luminaire Lifetime Residual Flux at $t_q 25^\circ\text{C}$	Lm	95%	
2.2	Luminaire Efficacy (lm/W) *	Lm/W	≥ 121	
2.3	Colour Rendering Index (CRI) *		≥ 70	
2.4	Colour Temperature (Average) *	K	5700	
2.5	Source flux	lm	7729	
2.6	Luminaire flux	lm	6801	
2.7	Maintenance factor	%	80	
2.8	Photometry Optic		5305	
3	Electrical Specifications			
3.1	Total Luminaire Power Minimum*	W	47W	
3.2	Minimum Energy Savings *	%	40 (minimum)	
3.3	Input Voltage	V AC	230 ± 10%	
3.4	Voltage Tolerance	V AC	198-264	
3.5	Input Frequency	Hz	50	
3.6	Power Factor *		≥ 0.95	
3.7	Total Harmonic Distortion *	%	≤ 20	
3.8	Safety Class *		Class 1	
3.9	Surge Protection *	KV&KA	≥ 10 & 10	
4	Mechanical specifications			
4.1	IP Rating *		≥ 66	
4.2	IK Rating *		≥ 08	
4.3	Luminaire Housing Material *		Aluminium	
4.4	Hinge pins, clips, clamps, set screws, bolts, nuts etc.		Stainless Steel (Grade 304)	
4.5	Optical compartment cover material		XXXXXXXXXX	
4.6	Reflector Material		XXXXXXXXXX	
4.7	Lens Material		XXXXXXXXXX	
4.8	Diffuser Material		XXXXXXXXXX	
4.9	Luminaire Dimensions (L*W *H) *	mm	244 x 535 x 107	
4.10	Total Luminaire Weight *	Kg	4.5kg	
4.11	Luminaire installation angle(s) *	Deg	15	
4.12	Mounting Bracket for fitment on Mast *		XXXXXXXXXX	Yes / No *
4.13	Body Powder Coating		XXXXXXXXXX	Yes / No *
5	Thermal Management Specification			
5.1	Luminaire operating temperature range*	°C	0 - 40	
5.2	LED junction temperature at drive current, T_j (°C)	°C	XXXXXXXXXX	
5.3	Thermal cut-off temperature switch provided		XXXXXXXXXX	Yes / No *
5.4	Temperature test report *		Required	Yes / No *

Schedule 1 continues...

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

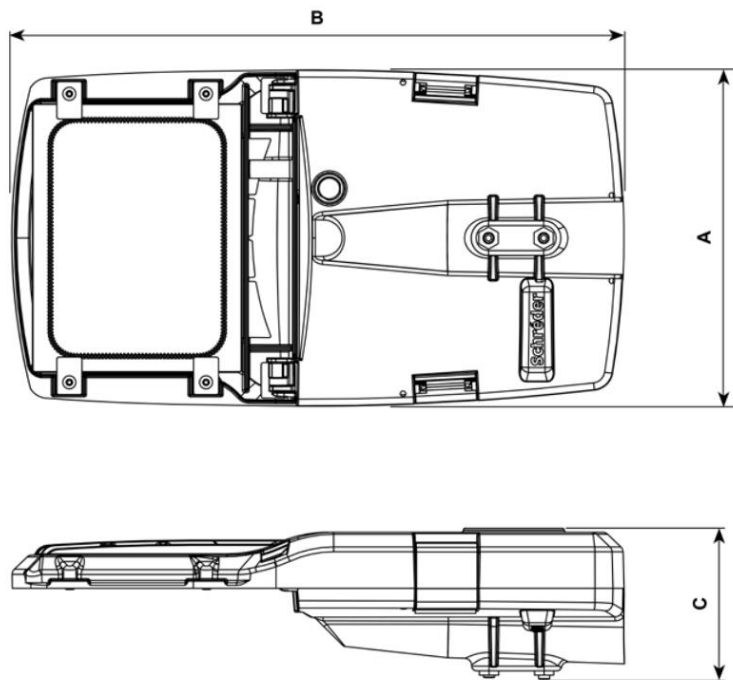
Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
6	Spare Parts Specifications			
6.1	LED Driver Part Number		XXXXXXXXXX	
6.2	LED Driver Make (Manufacture Name)		XXXXXXXXXX	
6.3	LED Module Part Number		XXXXXXXXXX	
6.4	LED Chip Make (Manufacture Name)		XXXXXXXXXX	
6.5	Surge Protection Part Number		XXXXXXXXXX	
6.6	Surge Protection Make (Manufacture Name)		XXXXXXXXXX	
7	Returnable Technical Documents			
7.1	Completed Schedule 1: Technical Data*		Required	Yes / No
7.2	Completed Schedule 2: Design Data*		Required	Yes / No
7.3	Photometric test reports		Required	Yes / No
7.4	SANS/IEC 60598-2-5 Product Type Test Report*		Required	Yes / No
7.5	Product Technical Datasheet*		Required	Yes / No
7.6	Instructional Installation Manual		Required	Yes / No
7.7	Endurance and thermal tests report		Required	Yes / No
7.8	Warranty Certificate *		Required	Yes / No
7.9	IES and/or LDT files *		Required	Yes / No
7.10	Lumen depreciation curves*		Required	Yes / No
7.11	Lighting Design Simulation *		Required	Yes / No
8	Warranties			
8.1	Luminaire Life Expectancy	yrs	10	
8.2	Lifetime Residual Flux	hrs	100 000 @ 95%	
8.3	Luminaire warranty*	yrs	5	
9	Delivery			
9.1	Lead Time for Delivery (from date of order)	days	XXXXXXXXXX	

***Mandatory**

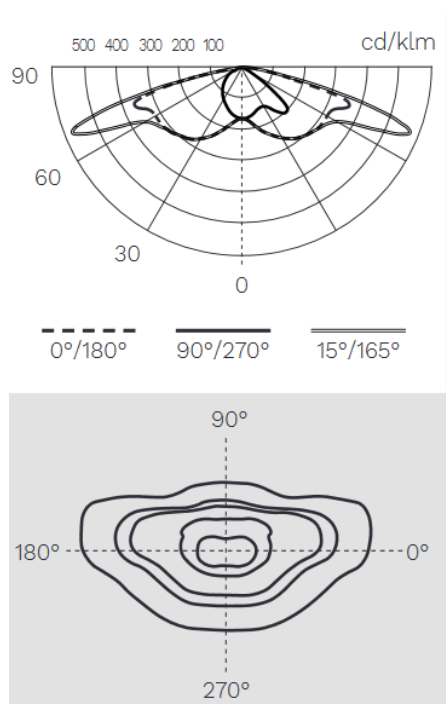
5.5.9. Performance Guarantee

All the luminaires offered shall have a minimum warranty period of 5 years. The scope of warranty shall include the luminaire housing, LED driver, and LED modules. The Luminaires which fail within the warranty period as a result of poor design, manufacturing and/or poor material component shall be replaced at no cost by the supplier.

5.5.10. Technical Drawing



5.5.11. Light Distribution



Bidding Company: _____

Name: _____ Signed: _____

Capacity of Signatory: _____ Date: _____

6. LED LUMINAIRE FOR LOW COST HOUSING & RDP STREETS (30W MINIMUM)

6.1. Scope

The LED Luminaires shall be designed, manufactured and tested such that they can be incorporated with a Tele-Management system in the future. Although the Tele-Management system does not form part of scope of work in this tender, the tenderer shall ensure that the offered LED luminaires are compatible to a Tele-Management system.

The LED luminaires shall also operate satisfactorily when subjected to the following conditions:

- Nominal Supply Voltage: 230V AC ($\pm 10\%$)
- Nominal Supply Frequency: 50Hz ($\pm 10\%$)
- Climate: hot exterior - Inland
- Altitude: > 1000m
- Ambient Temperature: - 5 to +40 Degree Celsius
- Relative Humidity: 20% – 90%
- Average Annual Rainfall: 560mm per annum
- Pollution: Dust, Industrial

6.2. General Requirements

The LED Streetlight Luminaire shall comply with the requirements of SANS 60598 and SANS 475. This shall be supported by documentary evidence in the form of Type Test reports / Product certification. The LED luminaire shall be supplied as a complete unit, ready for use with all components fully assembled, including the luminaire housing, driver, LED modules, lenses, reflectors, wiring, mounting brackets, etc. In addition to the above requirements, the LED Luminaire offered by the supplier shall meet or exceed the requirements specified by the Purchaser in Schedule 1: Schedule of Technical Data. Schedule 1 forms part of this tender document and must be completed by the supplier as part of the tender submission data package.

The supplier shall also provide the following documents as part of the returnable:

- Completed technical schedule 1
- Photometric test reports for luminaire offered
- SANS/IEC 60598-2-5 Product Type Test Report
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- The Local Content for the manufacturing of the LED luminaire in the Republic of South Africa must be at least 80%

6.3. Normative References

The following standards contain provision that, whether referenced in the text or not, constitute requirements of this specification.

ARP 035	Guidelines for the installation and maintenance of street lighting
IEC 62471	Photo biological safety of lamps and lamp systems
IES LM-79-08	Electrical and Photometric Measurements of Solid-State Lighting Products
IES TM 21-11	Projecting Long Term Lumen Maintenance of LED Light Sources
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 215	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
SANS 475	Luminaires for interior lighting, street lighting and floodlighting — Performance requirements
SANS 529	Heat-resisting wiring cables
SANS 1088	Luminaire entries and spigots
SANS 1091	National Colour Standard
SANS 1507	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) 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 10098-1	Public lighting Part 1: The lighting of public thoroughfares
SANS/IEC 51706	Aluminum and aluminum alloys – Castings – Chemical composition and mechanical properties
SANS/IEC 60529	Degrees of Protection provided by Enclosures (IP Code)
SANS/IEC 60598-1	Luminaires: Part 1. General Requirements and Tests
SANS 60598-2-3	Luminaires Part 2-3: Particular requirements - Luminaires for road and street lighting
SANS/IEC 60598-2-5	Luminaire: Particular requirements – luminaires for Floodlights
SANS/IEC 61000-3-2	Electromagnetic compatibility(EMC) Part 3-2: Limits — Limits for harmonic current emissions
SANS/IEC 61000-3-3	Electromagnetic compatibility (EMC) Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flickering public low- voltage supply systems
SANS/IEC 61000-4-5	Surge immunity test – Testing and measurement
SANS/IEC 61347-1	Lamp control gear Part 1: General and safety requirements
SANS/IEC 61347-2-13	Lamp control gear Part 2-13: Particular requirements for d.c. or a.c. supplied electronic control gear for LED modules
SANS/IEC 61547	Equipment for general lighting purposes – EMC immunity requirements
SANS/IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)
SANS/IEC 62384	DC or AC supplied electronic control gear for LED modules - Performance requirements
SANS 10098-2	Lighting of certain specific areas of street and highways
ISO 4762	Hexagon socket head cap screws
ISO 9001: 2008	Quality management systems
OHSACT (Act 85 of 1993)	Occupational Health and Safety Act and Regulations

NB: Tenders offering equipment to standards other than those listed above may be considered provided it is clearly indicated in which respects the equipment offered does not comply and the likely consequences of such non-compliance.

Note that the International (IEC) equivalence of SANS standards are generally the same but may include specific variations to be taken into account. Information on currently valid national and international standards can be obtained from the South African Bureau of Standards.

6.4. Definitions and Abbreviations

The definitions and abbreviation given in SANS/IEC 60598-1 / SANS / IEC 60598-2-5 / SANS 475 shall apply.

6.5. General Specifications

6.5.1. Product Description

- Side entry luminaire designed for optimized urban & residential road, roads & motorways, parking areas, bike & pedestrian area lighting.
- The luminaire consists of a spigot base compartment and hinged LED engine top casting. This hinged design allows the easy installation of the LED engine and the stainless steel latches allows for easy closure achieving the IP 65 water ingress protection of the electronic components. The design can operate LEDs of up to 30W. The mains terminal connector enclosed inside a cavity on the spigot base for improved water ingress.
- The luminaire shall bear the SANS 475 performance mark.
- The luminaire shall have a degree of protection that complies with SANS 60598-2-3:
 - LED compartment: IP 65
 - The IP rating is supported by a certified SABS test report.
- The LED engine, consisting of the LED light source and the power supply, can be easily replaced or upgraded. To maximize the reliability of the LED's, the photometrical engine is completely sealed to IP 65. This ensures that the photometric performance is maintained over time.
- Electronic temperature monitoring prevents overheating of LED's and power supply.
- The spigot base casting easily slides onto a 42mm outreach and secures with 2 x M8 grub screws.
- The housing manufactured from UV-stabilized, calcium-filled Polypropylene for corrosion resistance and optimal thermal management. A silicon sponge gasket fixed into a groove seals the spigot base casting to the LED engine casting to IP 65.
- The high-impact polycarbonate protector allows for impact resistance of IK10.
- All LED's have individual lenses for optimal light distribution for improved light performance. Additional anti-glare louvres and back light control is available.
- All control gear components are removable and bear the relevant SABS mark. All internal wiring is Teflon® coated to prevent damage by possible abrasion.
- All screws, bolts and metal parts are stainless steel or non-corrosive material. Mains connections by means of a suitable screw terminal block with a wire clamping contact. The luminaire power factor corrected to a minimum of 0,95.
- The IP 65 LED housing compartment optimizes the thermal operating environment around the LEDs enabling the long useful lifetime (60 000hrs, L70B10). With the introduction of LED technology, dimming options are much easier and further maximize energy savings.

- Recommended mounting height = 7.2m - 10m

6.5.2. Photometric Performance Requirements

Light Source	- Mid Powered 3030 LED.
Number of LEDs	- Minimum of 40 LED's in the optical compartment.
Colour Temperature	- The colour temperature of the luminaires shall be Neutral white 740, 4000K.
Colour Rendering (Ra)	- The colour rendering index shall be ≥ 70 .
Performance	<ul style="list-style-type: none"> - Power Consumption = 30W. - The LED current must be equal to 600mA with a nominal flux (lm) of minimum 4650 lumens at 155 lm/W or higher. - The LED current must be equal to 600mA with an output flux (lm) of minimum 3810 lumens at 127 lm/W or higher.
Maintenance Factor	- 80%
Photometry	- MID Flex photometric engines or similar photometric engines used for photometric distribution will be an advantage. Each LED is associated with a specific PMMA lens that generates the complete photometric distribution of the luminaire. The number of LED's in combination with the driving current that determines the intensity level of the light distribution. The MID Flex or equivalent concept must be used as a platform to build a state-of-the-art range of LED lighting solutions that provide significant energy savings and offer flexibility both in terms of performance and control while ensuring a long lifespan.
Photometry Optic	- 5313
Lifetime LEDs	- The lifetime of the LEDs @ Tq 25°C at 60 000h – L70B10.
Lifetime Driver	- The lifetime of the driver @ Tq 25°C at 100 000h $\geq 10\%$ failure rate.

6.5.3. Electrical Requirements

Operating Voltage	- The LED Luminaire shall be subjected to operational nominal voltages rated at 230V AC $\pm 10\%$, with a Frequency of 50Hz $\pm 10\%$.
Voltage Tolerance	- The LED Luminaire shall be subjected to voltage tolerance (AC) between 150 – 305V.
Power Factor	- The minimum power factor shall be 0.95, and the harmonic distortion levels shall be limited to less than 20% so as not to cause interference on the electrical network.
Surge Protection	- A suitable surge protection device must be provided to protect the driver and the LED modules. The surge protection device

shall be mounted inside the control gear compartment, and be easily replaceable. The surge protection device should be capable to withstand surges of up to 10KV/10KA. The supplier shall provide technical data sheets of the surge protection device integrated in the offered luminaire.

- | | |
|-------------------------------|---|
| Electromagnetic compatibility | - The LED Driver shall comply with the requirements of SANS 55015:2013/A1:2015 SANS 61000-3-2:2014, SANS 61000-3-3:2013, SANS 61547:2009 and SANS 62493:2015. |
| Wiring | - The wiring shall comply with the requirements of SANS 60598-1 and SANS 529. The wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperatures to which it will be subjected to during operation. The terminal blocks of the incoming supply cable shall be fixed independently, fastened, and housed inside the control gear compartment within the body of the luminaire. The terminal shall be indelibly marked either by means of colour coding or by the letters L, N & E. |
| Provision for Earthing | - The luminaire shall be earthed in accordance with the clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993). The Earthing of the luminaire shall comply with SANS60598-1. All parts of an earth terminal shall be made of brass or other corrosion resistant metal. The contact surface shall be bare metal and not be painted or varnished surfaces. |

6.5.4. Mechanical Performance Requirements

- | | |
|--------------|--|
| Construction | <ul style="list-style-type: none"> - Materials and finishing of housing - will be of UV-stabilized, calcium-filled Polypropylene. - Electronic Control Gear – Constant Current LED Driver IP 65. - Spigot base casting – Side entry Pole Mount. - Protector – High-impact Polycarbonate. - Coating – Light grey Polypropylene. - Installation – Side Entry Pole Mount. - Fixing – Side Entry Pole Mount – 2 x M8 grub screws. - Dimensions (LxWxH) – 500 x 212 x 96 Standard Version. - Weight (with gear) – 2.2kg. - Access – Yes. - The spigot side entry shall comply with SANS 1088:1990 as follows: 4.2.4.4.1 For Type 2 luminaires (side entry), the inside |
|--------------|--|

diameter of the spigot entry shall be 50 mm to 55 mm with a depth of 125mm.

- The aerodynamic resistance must be 0.107m^2 .

6.5.5. Thermal Management requirements

The LED luminaire shall contain a heatsink. The design of the luminaire and the heat sink shall ensure continuous effective cooling. The power supply should incorporate a thermal switch to prevent exceeding the case temperature for the maximum lifetime of the luminaire. The supplier shall provide in this tender document a detailed temperature testing report indicating how the luminaire manages its temperature and the effect it has on lumen maintenance.

Luminaires shall be suitable for operation at an ambient temperature, T_a , of 350 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.

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.

The luminaires shall have UV-stabilized, calcium-filled Polypropylene.

Ferrous components shall be hot-dip galvanised and shall withstand the test specified in the current edition of SANS 121 for heavy duty application.

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 a hinging mechanism.

Various items/components such as the UV-stabilized, calcium-filled Polypropylene housings, printed circuit boards (PCB's), glass protectors, silicon gaskets and stainless steel latches/clips shall be manufactured (not simply assembled) in South Africa.

6.5.6. Marking and Packaging

Except as specified otherwise, the method of marking must comply with SANS 60598-1 and shall be to the approval of the Client. A self-adhesive foil label must be applied to the outside of the luminaire in a position readily visible when the luminaire is mounted in position. The label must identify the type and the rating of the luminaire.

Luminaires must be delivered fully assembled and ready for use and packed in robust, triple-walled cardboard boxes each containing no more than one luminaire. A description

of the luminaire, manufacturer, and model number must be marked on the outside of the box.

6.5.7. Mandatory Technical Returnable Documents

- Completed Technical Schedule 1
- Photometric Test Reports for Luminaire Offered
- SANS/IEC 60598-2-5 Type Test Report from SABS or any ILAC accredited Laboratory for Luminaire offered
- Product Technical Datasheet
- Product Instructional Installation Manual
- Lumen depreciation curves
- Endurance and thermal tests report
- Warranty Certificate
- IES and/or LDT files supplied in electronic format (USB Flash Drive or Compact Disc) for luminaire offered
- Lighting Design Simulation for Luminaire offered
- Manufacturer's ISO 9001 Registration Certificate

6.5.8. Schedule 1: Schedule of Technical Data

LED Streetlight Luminaire

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
1	Manufacture Details			
1.1	Name of LED Luminaire Manufacture *		XXXXXXXXXX	
1.2	Manufacturer's ISO 9001 Registration Certificate Number		XXXXXXXXXX	
1.3	Manufacturer's ISO 9001 Registration Certificate *		Required	Yes / No
1.4	Location of Manufacture (Country) *		South Africa	
1.5	Local Content	%	≥ 80%	
1.6	Luminaire Type		LED Streetlight	
1.7	Luminaire Model Name		XXXXXXXXXX	
2	Photometric Specifications			
2.1	Luminaire Lifetime Residual Flux at $t_q 25^\circ\text{C}$	Lm	95%	
2.2	Luminaire Efficacy (lm/W) *	Lm/W	≥ 127	
2.3	Colour Rendering Index (CRI) *		≥ 70	
2.4	Colour Temperature (Average) *	K	4000	
2.5	Nominal flux	lm	4650	
2.6	Output flux	lm	3810	
2.7	Maintenance factor	%	80	
2.8	Photometry Optic		5313	
3	Electrical Specifications			
3.1	Total Luminaire Power Minimum*	W	30W	
3.2	Minimum Energy Savings *	%	40 (minimum)	
3.3	Input Voltage	V AC	230 ± 10%	
3.4	Voltage Tolerance	V AC	150-305	
3.5	Input Frequency	Hz	50	
3.6	Power Factor *		≥ 0.95	
3.7	Total Harmonic Distortion *	%	≤ 20	
3.8	Safety Class *		Class 1	
3.9	Surge Protection *	KV&KA	≥ 10 & 10	
4	Mechanical specifications			
4.1	IP Rating *		≥ 65	
4.2	IK Rating *		≥ 10	
4.3	Luminaire Housing Material *		Polypropylene	
4.4	Hinge pins, clips, clamps, set screws, bolts, nuts etc.		Stainless Steel (Grade 304)	
4.5	Optical compartment cover material		XXXXXXXXXX	
4.6	Reflector Material		XXXXXXXXXX	
4.7	Lens Material		XXXXXXXXXX	
4.8	Diffuser Material		XXXXXXXXXX	
4.9	Luminaire Dimensions (L*W *H) *	mm	212 x 500 x 96	
4.10	Total Luminaire Weight *	Kg	2.2kg	
4.11	Luminaire installation angle(s) *	Deg	15	
4.12	Mounting Bracket for fitment on Mast *		XXXXXXXXXX	Yes / No *
4.13	Body Powder Coating		XXXXXXXXXX	Yes / No *
5	Thermal Management Specification			
5.1	Luminaire operating temperature range*	°C	0 - 40	
5.2	LED junction temperature at drive current, T_j (°C)	°C	XXXXXXXXXX	
5.3	Thermal cut-off temperature switch provided		XXXXXXXXXX	Yes / No *
5.4	Temperature test report *		Required	Yes / No *

Schedule 1 continues...

Schedule 1 – Part A: Client's Specific Technical Requirements

Schedule 1 – Part B: Guarantees and Technical Particulars of LED Luminaire offered

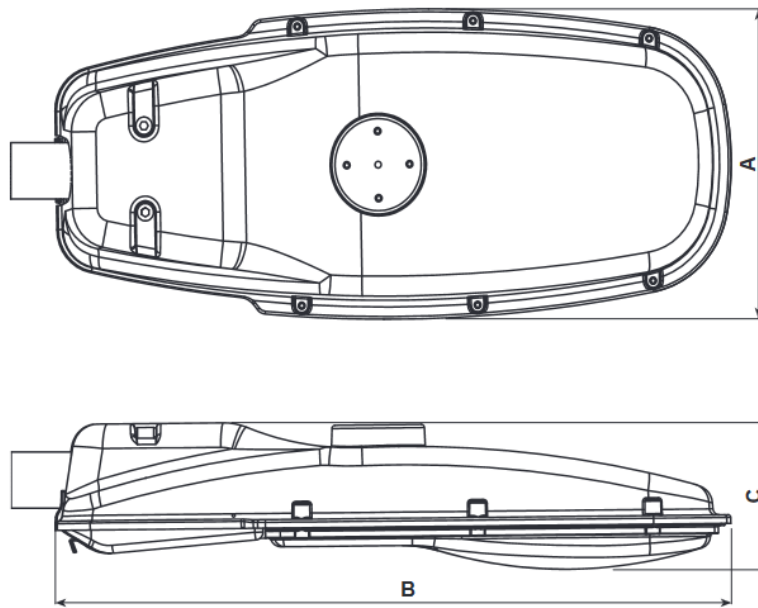
Item No.	Technical Details	Unit	Part A	Part B
			Specified	Offered
6	Spare Parts Specifications			
6.1	LED Driver Part Number		XXXXXXXXXX	
6.2	LED Driver Make (Manufacture Name)		XXXXXXXXXX	
6.3	LED Module Part Number		XXXXXXXXXX	
6.4	LED Chip Make (Manufacture Name)		XXXXXXXXXX	
6.5	Surge Protection Part Number		XXXXXXXXXX	
6.6	Surge Protection Make (Manufacture Name)		XXXXXXXXXX	
7	Returnable Technical Documents			
7.1	Completed Schedule 1: Technical Data*		Required	Yes / No
7.2	Completed Schedule 2: Design Data*		Required	Yes / No
7.3	Photometric test reports		Required	Yes / No
7.4	SANS/IEC 60598-2-5 Product Type Test Report*		Required	Yes / No
7.5	Product Technical Datasheet*		Required	Yes / No
7.6	Instructional Installation Manual		Required	Yes / No
7.7	Endurance and thermal tests report		Required	Yes / No
7.8	Warranty Certificate *		Required	Yes / No
7.9	IES and/or LDT files *		Required	Yes / No
7.10	Lumen depreciation curves*		Required	Yes / No
7.11	Lighting Design Simulation *		Required	Yes / No
8	Warranties			
8.1	Luminaire Life Expectancy	yrs	10	
8.2	Lifetime Residual Flux	hrs	100 000 @ 95%	
8.3	Luminaire warranty*	yrs	3	
9	Delivery			
9.1	Lead Time for Delivery (from date of order)	days	XXXXXXXXXX	

***Mandatory**

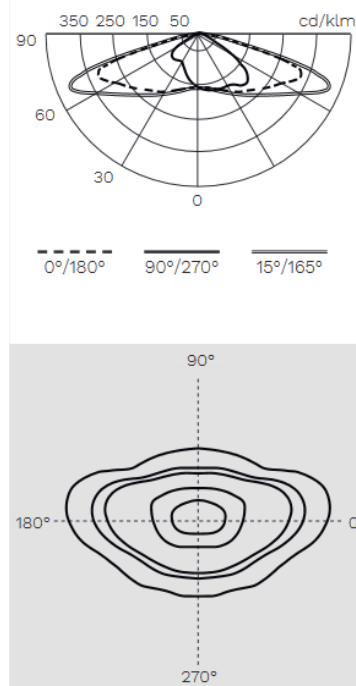
6.5.9. Performance Guarantee

All the luminaires offered shall have a minimum warranty period of 5 years. The scope of warranty shall include the luminaire housing, LED driver, and LED modules. The Luminaires which fail within the warranty period as a result of poor design, manufacturing and/or poor material component shall be replaced at no cost by the supplier.

6.5.10. Technical Drawing



6.5.11. Light Distribution



Bidding Company: _____

Name: _____ Signed: _____

Capacity of Signatory: _____ Date: _____

7. MAJOR & BRT ROADS (CLASS A1) – 120W MINIMUM

7.1. General Specifications

7.1.1. Product Description

The luminaire shall consist of 2 separate IP66 compartments namely LED driver compartment & optical compartment.

The optical compartment shall have a 48 LED PCB (5050 chips) enclosed in a PMMA lens with silicon gasket which shall ensure the IP66 rating. The lid of the LED driver compartment shall be secured to the body by means of 2 stainless steel screws. The lid of the LED driver compartment shall be hinged for ease of maintenance.

The LED driver compartment shall consist of LED driver & surge protection device mounted on a removable tray which can be replaced or upgraded.

The LED driver shall have a minimum built-in surge protection of 2kV. The LED driver shall have a minimum life of 50,000 hours.

The optical compartment shall be designed to operate LED light sources between 20-60 watts at Ta 35°C max.

The construction of the LED light source shall be designed to be used in conjunction with commercially available PMMA lenses for optimal light distribution. A minimum of 9 different light distributions shall be available to suit all road lighting applications.

The lens shall be fastened to the luminaire body by means of a minimum of 8 stainless steel screws & silicon gasket to ensure the IP66 integrity of the luminaire.

The luminaire housing & spigot shall be manufactured from marine grade cast aluminium (AC-44300) & be fusion bond epoxy coated to maximise heat distribution. The body of the luminaire shall have cross-torque cooling fins to optimise heat distribution. The fins shall be arranged in such a way to prevent build-up of water & debris.

7.1.2. Certification

The luminaire shall have the following certification issued by a SANAS accredited laboratory

SANS 60598-2-1: 2014 General requirements & tests

SANS 60598-2-3:2014 Particular Requirements – Luminaires for road & street lighting

SANS 475: 2013

7.1.3. Main applications

Major and BRT Roads (Class A1)

7.1.4. Recommended mounting height

4 to 10m

7.1.5. Colour Temperature

Cool White (5700K)

7.1.6. Color rendering (Ra)

>70

7.1.7. LEDs / Wattage

NOMINAL POWER	100W	120W	150W	200W	220W
NOMINAL FLUX	18 700	22 179	25 940	33 234	34 980
*NOMINAL EFFECIENCY (LM/W)	187	192	173	166	159
LUMINAIRE OUTPUT FLUX	15 895	18 852	22 050	28 248	29 733
LUMINAIRE OUTPUT RATIO	159	152	147	141	135
NUMBER OF LEDS	48				
COLOUR TEMPERATURE	2200K / 3000K / 4000K (Standard) / 6500K Optional				
LED LIFETIME (HOURS) @ TA 25 ° C	L90B10 - 100 000 Hours				
CRI	>70				
DIFFUSER	Glass - IK08 (Standard) Polycarbonate - IK09/10 (Optional)				
NOMINAL INPUT VOLTAGE	Standard 220V / 230V (Range 198-264V) Optional 90V - 305V				
OPERATING TEMPERATURE	-40°C TO 55°C				
SURGE PROTECTION	10KV (STANDARD) 20KV (OPTIONAL)				
IP RATING	IP66				
NET WEIGHT	12.3 KG				

*After optic and thermal losses

7.1.8. Materials and finishing

Housing – Marine Grade Aluminium (AC44300) Protector – UV stabilised PMMA

7.1.9. Finish

Fusion Bonded Epoxy Coating – Grey (Standard) Optional (RAL colours on request)
Natural Finish

7.1.10. Enclosure Tightness

IP 66

7.1.11. Enclosure Mechanical Impact Resistance

Polycarbonate - IK10

7.1.12. Installation & Fixing (Pole mounting) to SANS 1088

Spigot Side Entry – ø42mm * 125mm

7.1.13. Dimensions (L *W *H)

764.5 x 313.2 x 117mm

7.1.14. Weight (with gear)

12.3kg

7.2. Electrical Characteristics

7.2.1. Line Voltage

230VAC 50Hz

7.2.2. Mains voltage Tolerance (AC)

198-264V 50/60Hz

7.2.3. Electrical Safety Class (IEC)

Class I

7.2.4. External Surge protection (SPD)

10kV/10kA (Standard)

7.3. Power Supply

7.3.1. Power Factor

≥ 0.95

7.3.2. Thermal Safety

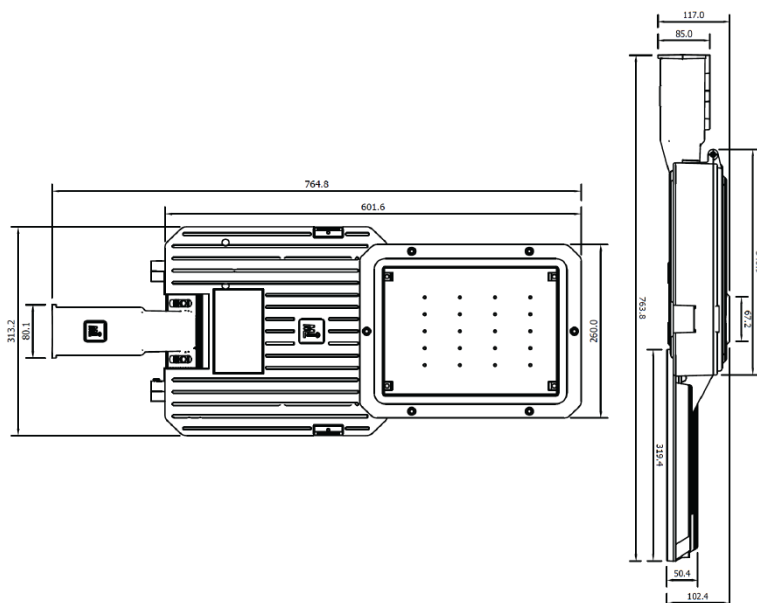
With thermal cut out (Tc max 75°C)

7.4. Environment

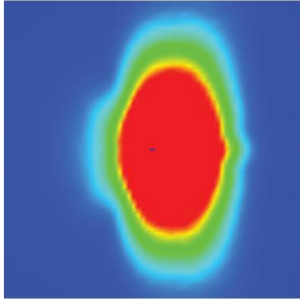
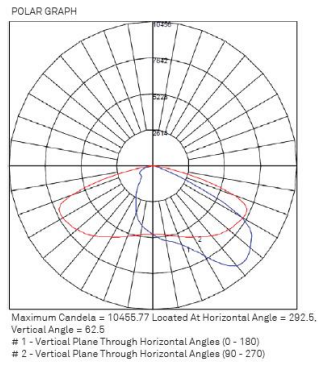
7.4.1. Operating temperature

-20°C to 50°C

7.5. Technical Drawing



7.6. Light Distribution



8. URBAN & MAJOR RESIDENTIAL ROADS (CLASS, A3 & A4) – 100W MINIMUM

8.1. General Specifications

8.1.1. Product Description

The luminaire shall consist of 2 separate IP66 compartments namely LED driver compartment & optical compartment.

The optical compartment shall have a 48 LED PCB (5050 chips) enclosed in a PMMA lens with silicon gasket which shall ensure the IP66 rating. The lid of the LED driver compartment shall be secured to the body by means of 2 stainless steel screws. The lid of the LED driver compartment shall be hinged for ease of maintenance.

The LED driver compartment shall consist of LED driver & surge protection device mounted on a removable tray which can be replaced or upgraded.

The LED driver shall have a minimum built-in surge protection of 2kV. The LED driver shall have a minimum life of 50,000 hours.

The optical compartment shall be designed to operate LED light sources between 20-60 watts at Ta 35°C max.

The construction of the LED light source shall be designed to be used in conjunction with commercially available PMMA lenses for optimal light distribution. A minimum of 9 different light distributions shall be available to suit all road lighting applications.

The lens shall be fastened to the luminaire body by means of a minimum of 8 stainless steel screws & silicon gasket to ensure the IP66 integrity of the luminaire.

The luminaire housing & spigot shall be manufactured from marine grade cast aluminium (AC-44300) & be fusion bond epoxy coated to maximise heat distribution. The body of the luminaire shall have cross-torque cooling fins to optimise heat distribution. The fins shall be arranged in such a way to prevent build-up of water & debris.

8.1.2. Certification

The luminaire shall have the following certification issued by a SANAS accredited laboratory

SANS 60598-2-1: 2014 General requirements & tests

SANS 60598-2-3:2014 Particular Requirements – Luminaires for road & street lighting

SANS 475: 2013

8.1.3. Main applications

URBAN & MAJOR RESIDENTIAL ROADS (CLASS, A3 & A4)

8.1.4. Recommended mounting height

4 to 10m

8.1.5. Colour Temperature

Cool White (5700K)

8.1.6. Color rendering (Ra)

>70

8.1.7. LEDs / Wattage

NOMINAL POWER	100W	120W	150W	200W	220W
NOMINAL FLUX	18 700	22 179	25 940	33 234	34 980
*NOMINAL EFFECIENCY (LM/W)	187	192	173	166	159
LUMINAIRE OUTPUT FLUX	15 895	18 852	22 050	28 248	29 733
LUMINAIRE OUTPUT RATIO	159	152	147	141	135
NUMBER OF LEDS	48				
COLOUR TEMPERATURE	2200K / 3000K / 4000K (Standard) / 6500K Optional				
LED LIFETIME (HOURS) @ TA 25 ° C	L90B10 - 100 000 Hours				
CRI	>70				
DIFFUSER	Glass - IK08 (Standard) Polycarbonate - IK09/10 (Optional)				
NOMINAL INPUT VOLTAGE	Standard 220V / 230V (Range 198-264V) Optional 90V - 305V				
OPERATING TEMPERATURE	-40°C TO 55°C				
SURGE PROTECTION	10KV (STANDARD) 20KV (OPTIONAL)				
IP RATING	IP66				
NET WEIGHT	12.3 KG				

*After optic and thermal losses

8.1.8. Materials and finishing

Housing – Marine Grade Aluminium (AC44300) Protector – UV stabilised PMMA

8.1.9. Finish

Fusion Bonded Epoxy Coating – Grey (Standard) Optional (RAL colours on request)
Natural Finish

8.1.10. Enclosure Tightness

IP 66

8.1.11. Enclosure Mechanical Impact Resistance

Polycarbonate - IK10

8.1.12. Installation & Fixing (Pole mounting) to SANS 1088

Spigot Side Entry – ø42mm * 125mm

8.1.13. Dimensions (L *W *H)

764.5 x 313.2 x 117mm

8.1.14. Weight (with gear)

12.3kg

8.2. Electrical Characteristics

8.2.1. Line Voltage

230VAC 50Hz

8.2.2. Mains voltage Tolerance (AC)

198-264V 50/60Hz

8.2.3. Electrical Safety Class (IEC)

Class I

8.2.4. External Surge protection (SPD)

10kV/10kA (Standard)

8.3. Power Supply

8.3.1. Power Factor

≥ 0.95

8.3.2. Thermal Safety

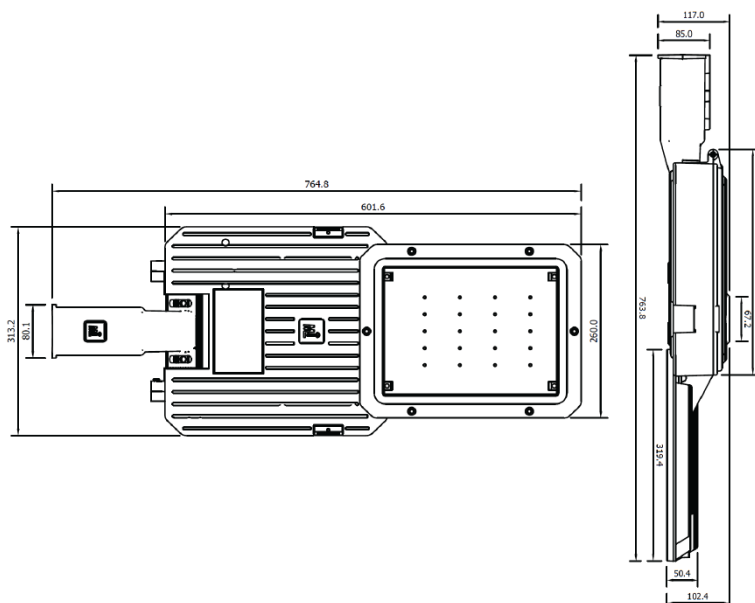
With thermal cut out (Tc max 75°C)

8.4. Environment

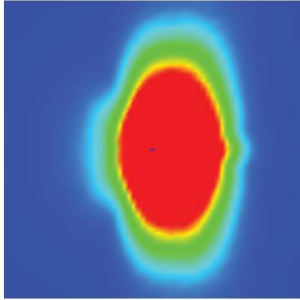
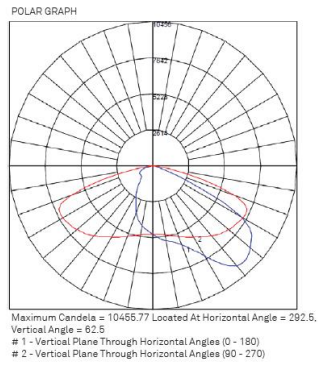
8.4.1. Operating temperature

-20°C to 50°C

8.5. Technical Drawing



8.6. Light Distribution



9. RESIDENTIAL ROADWAYS (CLASS B & C) -

9.1. General Specifications

9.1.1. Product Description

The luminaire shall consist of 2 separate IP66 compartments namely LED driver compartment & optical compartment.

The optical compartment shall have a 12 LED PCB (5050 chips) enclosed in a PMMA lens with silicon gasket which shall ensure the IP66 rating. The lid of the LED driver compartment shall be secured to the body by means of 2 stainless steel screws. The lid of the LED driver compartment shall be hinged for ease of maintenance.

The LED driver compartment shall consist of LED driver & surge protection device mounted on a removable tray which can be replaced or upgraded.

The LED driver shall have a minimum built-in surge protection of 2kV. The LED driver shall have a minimum life of 50,000 hours.

The optical compartment shall be designed to operate LED light sources between 20-60 watts at Ta 35°C max.

The construction of the LED light source shall be designed to be used in conjunction with commercially available PMMA lenses for optimal light distribution. A minimum of 9 different light distributions shall be available to suit all road lighting applications.

The lens shall be fastened to the luminaire body by means of a minimum of 8 stainless steel screws & silicon gasket to ensure the IP66 integrity of the luminaire.

The luminaire housing & spigot shall be manufactured from marine grade cast aluminium (AC-44300) & be fusion bond epoxy coated to maximise heat distribution. The body of the luminaire shall have cross-torque cooling fins to optimise heat distribution. The fins shall be arranged in such a way to prevent build-up of water & debris.

9.1.2. Certification

The luminaire shall have the following certification issued by a SANAS accredited laboratory

SANS 60598-2-1: 2014 General requirements & tests

SANS 60598-2-3:2014 Particular Requirements – Luminaires for road & street lighting

SANS 475: 2013

9.1.3. Main applications

URBAN & MAJOR RESIDENTIAL ROADS (CLASS, A3 & A4)

9.1.4. Recommended mounting height

4 to 10m

9.1.5. Colour Temperature

Cool White (5700K)

9.1.6. Color rendering (Ra)

>70

9.1.7. LEDs / Wattage

DRIVER CURRENT	540mA	800mA	1020mA	1250mA	1360mA	1470mA
RATED POWER	20W	30W	40W	50W	55W	60W
LUMINOUS FLUX (-/+ 5%) AFTER OPTICAL & THERMAL LOSSES	2800-3000LM	4200-4400LM	5600-5800LM	6100-6300LM	6800-6900LM	7000-7100LM
COLOUR TEMPERATURE	2200K / 3000K / 4000K (Standard) / 6500K					
INPUT VOLTAGE	Standard 220V / 230V (Range 198-264V) Optional 90V - 305V					
FREQUENCY RANGE	50 / 60Hz					
CRI	>70					
TC	-20 °C to 50 °C					
HUMIDITY	5% - 95%					
LED LIFETIME	L90 B10 100,000 hrs					
SPIGOT ENTRY	42mm Ø					
NET WEIGHT	1.3Kg					

* Values shown are AFTER both Thermal and Optical losses
Output will vary depending on optics utilised. Performance values are subject to ±5% variance

9.1.8. Materials and finishing

Housing – Marine Grade Aluminium (AC44300) Protector – UV stabilised PMMA

9.1.9. Finish

Fusion Bonded Epoxy Coating – Grey (Standard) Optional (RAL colours on request)
Natural Finish

9.1.10. Enclosure Tightness

IP 66

9.1.11. Enclosure Mechanical Impact Resistance

Polycarbonate - IK10

9.1.12. Installation & Fixing (Pole mounting) to SANS 1088

Spigot Side Entry – ø42mm * 125mm

9.1.13. Dimensions (L *W *H)

500 x 155 x 70mm

9.1.14. Weight (with gear)

1.3kg

9.2. Electrical Characteristics

9.2.1. Line Voltage

230VAC 50Hz

9.2.2. Mains voltage Tolerance (AC)

198-264V 50/60Hz

9.2.3. Electrical Safety Class (IEC)

Class I

9.2.4. External Surge protection (SPD)

10kV/10kA (Standard)

9.3. Power Supply

9.3.1. Power Factor

≥ 0.95

9.3.2. Thermal Safety

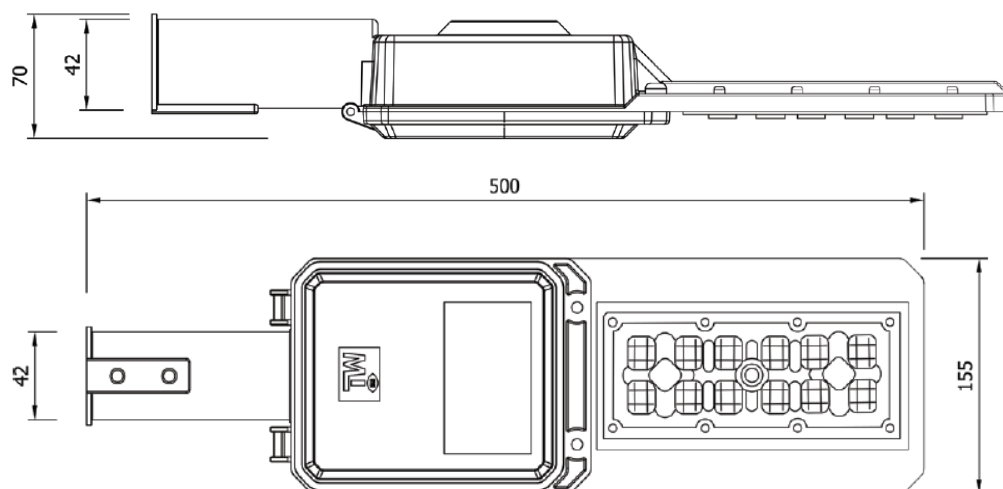
With thermal cut out (Tc max 75°C)

9.4. Environment

9.4.1. Operating temperature

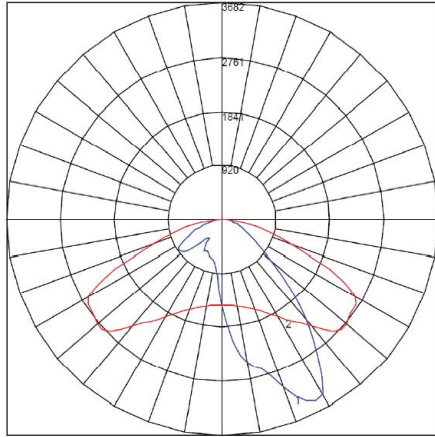
-20°C to 50°C

9.5. Technical Drawing

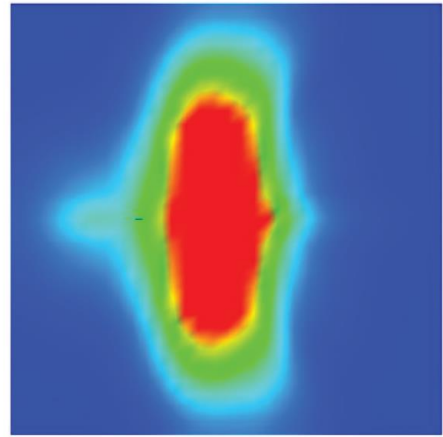


9.6. Light Distribution

POLAR GRAPH



Maximum Candela = 3681.873 Located At Horizontal Angle = 277.5, Vertical Angle = 50
1 - Vertical Plane Through Horizontal Angles (0 - 180)
2 - Vertical Plane Through Horizontal Angles (90 - 270)



10. COMBINED SPECIFICATION FOR 80W LED, 47W LED, 120W LED AND 30W LED STREETLIGHTS

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[Item 1 – 80W LED Streetlight](#)

[Item 2 – 47W LED Streetlight](#)

[Item 3 – 120W LED Streetlight](#)

[Item 4 – 30W LED Streetlight](#)

10.1. Acronyms and Definitions

Table 1: Acronyms and definitions

Ambient Performance Temperature, (Tq)	The maximum ambient temperature, Ta, at which a luminaire reaches the operational performance values for luminous flux and rated service life.
Ambient Temperature (Ta)	Temperature assigned to a luminaire by the manufacturer to indicate the highest sustained temperature in which the luminaire may be operated under normal conditions.
Area Lighting	The lighting required to illuminate large areas through the use of high mast flood lighting installations or similar installations. Area lighting includes the lighting of developed areas, such as residential or industrial areas, stadiums, parks, recreational facilities, parking areas and other public areas.
CCT	Correlated Colour Temperature
CRI	Colour Rendering Index
E	Earth terminal / conductor
HID Lamp	High Intensity Discharge Lamp
HPS Lamp	High Pressure Sodium Lamp
L	Live terminal / conductor
LED	Light Emitting Diode
LLF (MF)	Light Loss Factor (Maintenance Factor): This is the factor that is used to calculate the level of illumination after a given period of time and under given conditions, taking into account temperature and voltage variations, dirt accumulation, maintenance procedures and atmospheric conditions.
Luminaire Life	The total time for which a luminaire has been operated before it becomes useless or is considered to be so according to specified criteria. Note: Luminaire life is usually expressed in hours.
Luminous efficacy	Ratio of luminous flux of a lamp (in lumens) to the total electric power consumed (in watts).
Luminous flux	The rate of flow of luminous energy (lumens)
Luminous intensity	The luminous flux per unit solid angle in a given direction.
LOR	Light Output Ratio
Lumen (lm)	An SI unit of luminous flux which is emitted in unit solid angle (steradian) by a uniform point source having a luminous intensity of 1 candela. It indicates the amount of light the light source provides.
Luminaire	An apparatus which distributes, filters or transforms the light transmitted from one or more light sources and which includes, except the light source themselves, all the parts necessary for fixing and protecting the lamps and, where necessary, circuit auxiliaries together with the means for connecting them to the electric supply.
MH	Metal Halide Lamp
N	Neutral terminal / conductor
PF	Fundamental Power Factor
THD	Total Harmonic Distortion

Street Lighting	Refers to the lighting of public thoroughfares including motorways, arterial routes, residential roads, town and city centres and pedestrian-orientated areas.
Illuminance Uniformity ratio Emin/Eav	This is the variation of illuminance from the lowest value to the average value measured at a specified number of points spread evenly over an illuminated area on a given surface, and expressed as a ratio.
Overall Luminance Uniformity Ratio Uo	Overall luminance uniformity, the ratio of the minimum to the average luminance on the road surface of the carriageway within the calculation area.

W Watts

Where definitions and acronyms are not listed above, the definitions and acronyms given in SANS/IEC 60598-1, SANS/IEC 60598-2-5, and SANS 475, SANS 10098-1, SANS 10389-1 or equivalent shall apply unless otherwise specifically defined within this document. The document shall take preference

10.2. References

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

Table 2: References and standards

SANS 60529:	Degrees of protection provided by enclosures (IP Code)
ARP 035:2014:	Guidelines for the installation and Maintenance of street lighting
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods
SANS 475	Luminaires for interior lighting, street lighting and floodlighting – Performance requirements
SANS 1088	Luminaires entry and spigots
SANS 1507-1	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) – Part 1: General
SANS 1507-2	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) – Part 2: Wiring cables
SANS 1507-3	Electric cables with extruded solid dielectric insulation for fixed installations (300/500V to 1 900/3 300V) – Part 3: PVC distribution cables
SANS 10098 – 1	Public lighting - Part 1; the lighting of public thoroughfares.
SANS 60598/ Luminaires – Part 1:	General requirements and tests
SANS 60598/ Luminaires – Part 2-3:	Particular requirements - Luminaires for road and street lighting
OHSACT (ACT 85 of 1993)	Occupational Health and Safety ACT and Regulations
SANS 10142	Wiring code of practice

10.3. Technical Specifications of LED Luminaires

10.3.1. Scope

This specification covers the requirements for manufacturing, testing, supply, and delivery of light emitting diode (LED) street light luminaires.

10.3.2. General requirements

Compliance to the below mentioned requirements shall be judged by documented evidence. Any document/test report presented shall be specific to the luminaire in question or the full luminaire product family.

All test reports/measurements and statements must be traceable to international measurements standards.

The supplier of the LED luminaire is required, upon request, to submit a sample(s) of the proposed luminaire, the cost of the sample shall be covered by the supplier.

The luminaire sample(s) provided may undergo destructive testing as part of the evaluation process to ensure compliance.

The luminaire must be designed in South Africa by a suitably accredited ISO9001 company.

The luminaire must be designed, manufactured, and assembled by a suitably accredited BBBEE level 1 company.

The luminaire shall be supplied completely assembled as a single unit with housing, driver, LED module, and diffuser without the need for any site assembly.

The luminaire shall have a minimum of 500mm length of a 3-core power supply cable.

Actual design data and results and luminaire photometric data shall be supplied in an electronic format.

Luminaire data files supplied must be in IES and/or LDT format, suitable for use with any commercially available lighting design software such as Dialux and Relux.

10.3.3. Operating conditions

The luminaire shall be designed to operate in the following conditions without any impact on performance and life time

Table 3: Operating conditions

Climate	South African Inland and Coastal climate
Altitude	From MSL to 1600m
Ambient temperature	From -5°C to +35°C
Maximum relative humidity	98%
Mean annual value of solar radiation	1.0 kW/m ²
Average total annual rainfall	1000 mm
Pollution	Heavy atmospheric pollution levels
Lightning ground flash density	up to 5 flashes/km ² /year
System phase voltage	207V to 253V
System frequency	50Hz
System neutral earthing	Solidly

10.3.4. Construction requirements

- The luminaire shall be of a durable and robust design and construction.
- The luminaire shall be weather-proof, hail-proof, insect-proof, corrosion-proof.
- The luminaire shall be made from high pressure die cast LM6 marine grade aluminium.
- The luminaire shall be powder coated with a durable epoxy to provide additional protection against premature corrosion and degradation.
- The luminaire shall be a fully enclosed type and designated a Class 1 as per SANS 60598 - 1.
- The LED module and luminaire control gear chambers shall be sealed to IP66 rating.
- The luminaire shall be equipped with an IP68 rated air pressure equalization device.
- The luminaire must allow sufficient space for repairs, replacements and general maintenance of components while the luminaire is fixed on the pole.
- Auxiliary components to the luminaire such as clips, screws, nuts, bolts, and washers must be manufactured from stainless steel grade 304 or better.
- The luminaire shall withstand wind speeds up to 150 km/h on the largest projected area.

10.3.5. Power requirements

- The luminaire must operate within the range of supply mentioned in the table above.
- The luminaire must operate at a power factor of 0.9 or higher.
- The luminaire shall at minimum achieve 50% energy saving when compared to the HID luminaire they are designed to replace.
- The LED modules must be powered through a constant current driver with a life time of 100 000 hours or more.
- The luminaire driver must be designed to operate up to the rated life time between the above-mentioned atmospheric conditions.
- The luminaire driver shall have a minimum power factor of 0.95 at full load.
- The luminaire driver shall have a minimum power factor of 0.9 while operating below full load.
- The luminaire driver must be rated to withstand electrical surges of up to 10kV.
- The luminaire must incorporate a separate surge protection device of up to 10kV / 10kA in addition to the surge protection offered by the driver.
- The dedicated surge protection device must be mounted internally to the luminaire and must be easily replaceable for maintenance purposes.
- The control gear of the luminaire shall be assembled internally, in a separate chamber to the LED modules.
- The luminaire design should allow the ease of maintenance and replacement onsite of the control gear through the use of a gear tray.
- All internal interconnecting wiring must be ETFE insulated solid core copper wire compliant to EN 60228 (VDE 0295):2005-09 and VDE 0207 part 6:2004-10.
- The luminaire shall be earthed in accordance to clause 13 of the Electrical Machinery Regulations of the OSH Act (Act 85 of 1993).
- The earthing of the luminaire shall comply with sub clause 7.2 of SANS 60598 – 1.
- All parts of an earth terminal shall be made of brass or other corrosion resistant metal and the contact surface shall be bare metal and not be painted or varnished surfaces.
- Metal parts of luminaires which may become alive in the event of an 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.
- Luminaire with detachable parts provided with connectors and similar connection devices, the earth connection shall be made before the current-carrying contacts are made and the current-carrying contacts shall separate before the earth connection is broken.
- All earth connections shall be fixed 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 alive in the event of insulation fault, are not accessible.
- Protection against electric shock shall be provided 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, except those parts of lamp holders specified in SANS 60598 – 1.
- The internal wiring of the luminaire shall be flexible and suitably insulated to withstand the voltage and maximum temperature to which is subjected to in service. Wiring shall comply with the requirements stipulated in SANS 60598-1.
- Wiring to the LED module shall be suitably sealed to prevent ingress of insects into the LED module compartment.

10.3.6. Thermal requirements

- The LED luminaire must dissipate all the heat generated by passive means.
- No active cooling devices may be incorporated into the luminaire.
- The thermal design must ensure that all internal components are always within the permissible operating temperature range of the component.
- The luminaire must have a reasonable amount of material in contact with the heat sources to provide a suitable thermal buffer that is able to regulate temperature fluctuations passively.
- The luminaire must be tested as per SANS 475 to temperature up to +45°C.
- The performance values of the luminaire must be supplied at an ambient temperature (Ta) of +35°C. Performance values at lower temperatures are not acceptable.
- The lumen output values of the luminaire must be specified at a reasonable junction temperature. No performance values of junction temperature (Tj) lower than +50°C is acceptable.

10.3.7. Street light luminaire specific requirements

- The street light luminaire must be tested and be in compliance with the latest revision of SANS 60598-1.
- The street light luminaire must be tested and be in compliance with the latest revision of SANS 60598-2-3.
- The street light luminaire must be able to accommodate a NEMA (ANSI C136.41) 3, 5, and 7 pin node receptacles without compromising on the IP rating of the full luminaire.
- The street light luminaire shall allow for the side entry of a 42 mm diameter spigot with an entry length of 125 mm.
- The spigot entry shall accommodate at least 2 x M10 stainless steel bolts and locking-nuts to ensure secure mounting to the spigot.

10.3.8. Testing requirements

- The supplier must provide a test report to prove the luminaire is compliant to SANS 60598-1
- The supplier must provide a test report to prove the street light luminaire is compliant to SANS 60598-2-3.
- The supplier must provide a test report to prove the luminaire is compliant to SANS 475.
- All submitted test reports must be issued by SABS or a test authority accredited by SANAS, no test reports issued by international testing bodies may be accepted.

10.3.9. Marking and Packaging

- Each luminaire shall be marked using a method that complies with SANS 60598-1.
- Each luminaire shall be individually packed in a sturdy cardboard box in order to prevent damage during handling, transportation and storage. The cartons shall be clearly marked with the appropriate identification codes of the luminaire contained therein.
- Each luminaire shall be marked, by means of a suitable label with the rated wattage of the luminaire.

10.4. Item 1 – 80W LED Streetlight

- The LED manufacturer must supply test reports in accordance with LM80 – 15.
- The LED lumen depreciation data may be extrapolated in accordance with TM-21-11.
- The LED modules must conform to the latest ZHAGA consortium Book 15 specifications.
- The secondary optics shall be compatible with LED modules designed according to the latest ZHAGA consortium Book 15 specifications.
- The luminaire shall be a maximum 80W with a minimum nominal flux of 11 600lm.
- The LED module must have a minimum efficacy of 145 lm/W.
- The luminaire must have a minimum effective system efficacy of 115 lm/W.
- The LED modules must have a lumen flux depreciation factor of 90%.
- The LED modules must have a maximum chip mortality factor of 10%.
- The LED LxxBxx rating must be specified at the rated operating ambient temperature with a rated life time of 100 000 hours
- The colour rendering index (CRI) of the LED modules shall be of a minimum value of 70.
- The correlated colour temperature (CCT) of the LED modules shall be 4000 K.
- The LED module must have a Standard Deviation Colour Matching (SDCM) rating of 4 or less.
- The secondary optics used shall be manufactured from high quality optical grade PMMA “Plexiglass” or Silicone.
- The secondary optics shall be mechanically secured through the LED module to the main luminaire housing via a suitable machine screw manufactured from 304 grade stainless steel or higher.
- The secondary optics shall be protected by a tempered glass diffuser with a minimum thickness of 4mm.
- The tempered glass diffuser must be mechanically secured to the main luminaire housing ensuring IP66 rated protection.
- The tempered glass diffuser must be bearing a minimum impact protection rating of IK08.

10.5. Item 2 – 47W LED Streetlight

- The LED manufacturer must supply test reports in accordance with LM80 – 15.
- The LED lumen depreciation data may be extrapolated in accordance with TM-21-11.
- The LED modules must conform to the latest ZHAGA consortium Book 15 specifications.
- The secondary optics shall be compatible with LED modules designed according to the latest ZHAGA consortium Book 15 specifications.
- The luminaire shall be a maximum 47W with a minimum nominal flux of 7 004lm.
- The LED module must have a minimum efficacy of 145 lm/W.
- The luminaire must have a minimum effective system efficacy of 110 lm/W.
- The LED modules must have a lumen flux depreciation factor of 90%.
- The LED modules must have a maximum chip mortality factor of 10%.
- The LED LxxBxx rating must be specified at the rated operating ambient temperature with a rated life time of 100 000 hours

- The colour rendering index (CRI) of the LED modules shall be of a minimum value of 70.
- The correlated colour temperature (CCT) of the LED modules shall be 4000 K.
- The LED module must have a Standard Deviation Colour Matching (SDCM) rating of 4 or less.
- The secondary optics used shall be manufactured from high quality optical grade PMMA "Plexiglass" or Silicone.
- The secondary optics shall be mechanically secured through the LED module to the main luminaire housing via a suitable machine screw manufactured from 304 grade stainless steel or higher.
- The secondary optics shall be protected by a tempered glass diffuser with a minimum thickness of 4mm.
- The tempered glass diffuser must be mechanically secured to the main luminaire housing ensuring IP66 rated protection.
- The tempered glass diffuser must be bearing a minimum impact protection rating of IK08.

10.6. Item 3 – 120W LED Streetlight

- The LED manufacturer must supply test reports in accordance with LM80 – 15.
- The LED lumen depreciation data may be extrapolated in accordance with TM-21-11.
- The LED modules must conform to the latest ZHAGA consortium Book 15 specifications.
- The secondary optics shall be compatible with LED modules designed according to the latest ZHAGA consortium Book 15 specifications.
- The luminaire shall be a maximum 120W with a minimum nominal flux of 17 500lm.
- The LED module must have a minimum efficacy of 145 lm/W.
- The luminaire must have a minimum effective system efficacy of 115 lm/W.
- The LED modules must have a lumen flux depreciation factor of 90%.
- The LED modules must have a maximum chip mortality factor of 10%.
- The LED LxxBxx rating must be specified at the rated operating ambient temperature with a rated life time of 100 000 hours
- The colour rendering index (CRI) of the LED modules shall be of a minimum value of 70.
- The correlated colour temperature (CCT) of the LED modules shall be 4000 K.
- The LED module must have a Standard Deviation Colour Matching (SDCM) rating of 4 or less.
- The secondary optics used shall be manufactured from high quality optical grade PMMA "Plexiglass" or Silicone.
- The secondary optics shall be mechanically secured through the LED module to the main luminaire housing via a suitable machine screw manufactured from 304 grade stainless steel or higher.
- The secondary optics shall be protected by a tempered glass diffuser with a minimum thickness of 4mm.
- The tempered glass diffuser must be mechanically secured to the main luminaire housing ensuring IP66 rated protection.
- The tempered glass diffuser must be bearing a minimum impact protection rating of IK08.

10.7. Item 4 – 30W LED Streetlight

- The LED manufacturer must supply test reports in accordance with LM80 – 15.
- The LED lumen depreciation data may be extrapolated in accordance with TM-21-11.
- The LED modules must conform to the latest ZHAGA consortium Book 15 specifications.
- The secondary optics shall be compatible with LED modules designed according to the latest ZHAGA consortium Book 15 specifications.

- The luminaire shall be a maximum 30W with a minimum nominal flux of 4 800lm.
- The LED module must have a minimum efficacy of 145 lm/W.
- The luminaire must have a minimum effective system efficacy of 110 lm/W.
- The LED modules must have a lumen flux depreciation factor of 90%.
- The LED modules must have a maximum chip mortality factor of 10%.
- The LED LxxBxx rating must be specified at the rated operating ambient temperature with a rated life time of 100 000 hours
- The colour rendering index (CRI) of the LED modules shall be of a minimum value of 70.
- The correlated colour temperature (CCT) of the LED modules shall be 4000 K.
- The LED module must have a Standard Deviation Colour Matching (SDCM) rating of 4 or less.
- The secondary optics used shall be manufactured from high quality optical grade PMMA "Plexiglass" or Silicone.
- The secondary optics shall be mechanically secured through the LED module to the main luminaire housing via a suitable machine screw manufactured from 304 grade stainless steel or higher.
- The secondary optics shall be protected by a tempered glass diffuser with a minimum thickness of 4mm.
- The tempered glass diffuser must be mechanically secured to the main luminaire housing ensuring IP66 rated protection.
- The tempered glass diffuser must be bearing a minimum impact protection rating of IK08.

PRICING SCHEDULE

Name of Bidder..... Bid Number:PM20/2022
 Closing Time Closing Date: 26 JANUARY 2022

OFFER TO BE VALID FOR 90 DAYS FROM THE CLOSING DATE OF BID.

Item	Description	Qty	Indicated delivery period	Unit Price
1	LED LUMINAIRE FOR SYMETRICAL POST TOP LUMINAIRE (43W MINIMUM)	Each/per unit		R
2	LED LUMINAIRE FOR SYMETRICAL POST TOP LUMINAIRE (43W MINIMUM)	Each/per unit		R
3	LED LUMINAIRE FOR CLASS A1 & BRT STREETS (122W MINIMUM)	Each/per unit		R
4	LED LUMINAIRE FOR CLASS A2, A3 & A4 STREETS (78W MINIMUM)	Each/per unit		R
5	LED LUMINAIRE FOR CLASS B & C STREETS (47W MINIMUM)	Each/per unit		R
6	LED LUMINAIRE FOR LOW COST HOUSING & RDP STREETS (30W MINIMUM)	Each/per unit		R
7	MAJOR & BRT ROADS (CLASS A1)	Each/per unit		R
8	URBAN & MAJOR RESIDENTIAL ROADS (CLASS, A3 & A4)	Each/per unit		R
9	RESIDENTIAL ROADWAYS (CLASS B & C)	Each/per unit		R
10	80W LED STREETLIGHT - CLASS A2, A3 & A4 STREETS	Each/per unit		R
11	47W LED STREETLIGHT - CLASS B & C STREETS	Each/per unit		R
12	120W LED STREETLIGHT - CLASS A1 & BRT STREETS	Each/per unit		R
13	30W LED STREETLIGHT - LOW COST HOUSING & RDP STREETS	Each/per unit		R
Sub-total				R
VAT 15%				R
Bid Total Amount Vat included				R

Note: All delivery costs must be included in the bid price, for delivery at the prescribed destination.

Note: Price escalation for the second and third year shall be according to consumer price index (CPI)

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

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

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

1. GENERAL CONDITIONS

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

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

1.2

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

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

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

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

2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
 - 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

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

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

80/20

or

90/10

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \quad \text{or} \quad P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for price of bid under consideration

P_t = Price of bid under consideration

P_{\min} = Price of lowest acceptable bid

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

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

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

5. BID DECLARATION

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

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

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

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

7. SUB-CONTRACTING

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

(**Tick applicable box**)

YES		NO	
-----	--	----	--

7.1.1 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 in terms of Preferential Procurement Regulations, 2017:

Designated Group: An EME or QSE which is at least 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		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

8. DECLARATION WITH REGARD TO COMPANY/FIRM

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

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

.....

8.6 COMPANY CLASSIFICATION

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

[TICK APPLICABLE BOX]

8.7 MUNICIPAL INFORMATION

Municipality where business is situated:

Registered Account Number:

Stand Number:.....

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

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

- i) The information furnished is true and correct;

- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audialterampartem* (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution

WITNESSES

1.
2.

.....

SIGNATURE(S) OF BIDDERS(S)

DATE:

ANNEXURE A

EVALUATION PROCESS AND CRITERIA

BID NO. PM20/2022

The following evaluation process and criteria will be used to evaluate this bid:

1. Administrative Compliance – Phase One

1.1 All bids duly lodged will be examined to determine compliance with bidding requirements and conditions. Bids with obvious deviations from the requirements/conditions, will be eliminated from further evaluation.

1.2 **Critical Criteria:**

The following critical criteria have been identified for this bid and any non compliance thereto will lead to the bid being regarded as non-responsive and disqualified from further evaluation on functionality. Bidders will be required to submit the following documents and other administrative compliance requirements as follows:

- Provide Central Supplier Database (CSD) number
- All pages of the bid document initialled and signed where required
- Completed and signed declaration on past SCM practices form **(MBD8)**
- Signed J/V agreement submitted (Where applicable)
- Signing of the declaration of interest form **(MBD4)**
- Copy of municipal rates and taxes statement of account which is not older than three (3) months for the company and all directors or valid lease agreement or letter from local authority not older than 3 months

NB: THE BIDDERS THAT MEET THE ABOVE ADMINISTRATIVE COMPLIANCE WILL FURTHER BE EVALUATED ON PRICING AND BBEE.

NB: SUBMISSION OF ORIGINAL OR CERTIFIED COPY OF 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. FAILURE TO SUBMIT ORIGINAL OR CERTIFIED COPY WILL RESULT IN FORFEITING THE BBEE POINTS

NOTE: JOINT VENTURE MUST SUBMIT ORIGINAL OR CERTIFIED COPY OF CONSOLIDATED A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE (FAILURE WILL RESULT IN FORFEITING THE BBEE POINTS)

MBD 4

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

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

3.2 Identity Number:

3.3 Position occupied in the Company (director, trustee, hareholder²):.....

3.4 Company Registration Number:

3.5 Tax Reference Number:.....

3.6 VAT Registration Number:

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

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

3.8.1 If yes, furnish particulars.

.....

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

- (a) a member of –
 - (i) any municipal council;
 - (ii) any provincial legislature; or
 - (iii) the national Assembly or the national Council of provinces;
- (b) a member of the board of directors of any municipal entity;
- (c) an official of any municipality or municipal entity;
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

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

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

3.9.1 If yes, furnish particulars.....

.....

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

3.10.1 If yes, furnish particulars.

.....

.....

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

3.11.1 If yes, furnish particulars

.....
.....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.12.1 If yes, furnish particulars.

.....
.....

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

3.13.1 If yes, furnish particulars.

.....
.....

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

3.14.1 If yes, furnish particulars:

.....
.....

4. **Full details of directors / trustees / members / shareholders.**

Full Name	Identity Number	State Employee Number

.....

Signature

.....

Date

.....

Capacity

.....

Name of Bidder

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

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

- 1 Are you by law required to prepare annual financial statements for auditing?
 - 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 any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?
 - 2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.
 - 2.2 If yes, provide particulars.

.....

.....

.....

.....

* Delete if not applicable

- 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

.....

Position

.....

Name of Bidder

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT

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

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:201x.

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9.(1) and 9.(3) make provision for the promotion of local production and content.
- 1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Regulation 9.(3) prescribes that where there is no designated sector, a specific bidding condition may be included, that only locally produced services, works or goods or locally manufactured goods with a stipulated minimum threshold for local production and content, will be considered.
- 1.4. Where necessary, for bids referred to in paragraphs 1.2 and 1.3 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.5. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.6. The local content (LC) as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 201x as follows:

$$LC = 1 - \left(\frac{X}{Y} \right) \times 100$$

Where

x imported content

y bid price excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date, one week (7 calendar days) prior to the closing date of the bid as required in paragraph 4.1 below.

1.7. A bid will be disqualified if:

- the bidder fails to achieve the stipulated minimum threshold for local production and content indicated in paragraph 3 below; and this declaration certificate is not submitted as part of the bid documentation.

2. Definitions

- 2.1. **“bid”** includes advertised competitive bids, written price quotations or proposals;
 - 2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
 - 2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
 - 2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
 - 2.5. **“Duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).
 - 2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
 - 2.7. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
 - 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
 - 2.9. **“Sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.
3. **The stipulated minimum threshold(s) for local production and content for this bid is/are as follows:**

Description of services, works or goods

Stipulated minimum threshold

_____	_____ %
_____	_____ %
_____	_____ %

4. Does any portion of the services, works or goods offered have any imported content?

YES / NO

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.6 of the general conditions must be the rate(s) published by the SARB for the specific currency at 12:00 on the date, one week (7 calendar days) prior to the closing date of the bid.

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

Indicate the rate(s) of exchange against the appropriate currency in the table below:

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

IN RESPECT OF BID No.

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):
.....

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

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

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

(b) I have satisfied myself that the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286.

(c) The local content has been calculated using the formula given in clause 3 of SATS 1286, the rates of exchange indicated in paragraph 4.1 above and the following figures:

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

If the bid is for more than one product, a schedule of the local content by product shall be attached.

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

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:	DATE: _____
WITNESS No. 1	DATE: _____
WITNESS No. 2	DATE: _____

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

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

Item	Question	Yes	No
4.1	<p>Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).</p> <p>The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	<p>Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?</p> <p>The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>
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?	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
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?	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

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

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

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD
- 6 must be completed and submitted with the bid:

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

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

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

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

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

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) Has been requested to submit a bid in response to this bid invitation;
 - (b) Could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) Provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) Prices;
 - (b) Geographical area where product or service will be rendered (market allocation)
 - (c) Methods, factors or formulas used to calculate prices;
 - (d) The intention or decision to submit or not to submit, a bid;
 - (e) The submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) Bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and

conditions or delivery particulars of the products or services to which this bid invitation relates.

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

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

10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition

of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No. 12 of 2004 or any other applicable legislation.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

This document must be signed and submitted together with your bid

THE NATIONAL INDUSTRIAL PARTICIPATION PROGRAMME

INTRODUCTION

The National Industrial Participation (NIP) Programme, which is applicable to all government procurement contracts that have an imported content, became effective on the 1 September 1996. The NIP policy and guidelines were fully endorsed by Cabinet on 30 April 1997. In terms of the Cabinet decision, all state and parastatal purchases / lease contracts (for goods, works and services) entered into after this date, are subject to the NIP requirements. NIP is obligatory and therefore must be complied with. The Industrial Participation Secretariat (IPS) of the Department of Trade and Industry (DTI) is charged with the responsibility of administering the programme.

1 PILLARS OF THE PROGRAMME

- 1.1 The NIP obligation is benchmarked on the imported content of the contract. Any contract having an imported content equal to or exceeding US\$ 10 million or other currency equivalent to US\$ 10 million will have a NIP obligation. This threshold of US\$ 10 million can be reached as follows:
 - (a) Any single contract with imported content exceeding US\$10 million.
 - or
 - (b) Multiple contracts for the same goods, works or services each with imported content exceeding US\$3 million awarded to one seller over a 2 year period which in total exceeds US\$10 million. or
 - (c) A contract with a renewable option clause, where should the option be exercised the total value of the imported content will exceed US\$10 million. or
 - (d) Multiple suppliers of the same goods, works or services under the same contract, where the value of the imported content of each allocation is equal to or exceeds US\$ 3 million worth of goods, works or services to the same government institution, which in total over a two (2) year period exceeds US\$10 million.
- 1.2 The NIP obligation applicable to suppliers in respect of sub-paragraphs 1.1 (a) to 1.1 (c) above will amount to 30 % of the imported content whilst suppliers in respect of paragraph 1.1 (d) shall incur 30% of the total NIP obligation on a *pro-rata* basis.
- 1.3 To satisfy the NIP obligation, the DTI would negotiate and conclude agreements such as investments, joint ventures, sub-contracting, licensee production, export promotion, sourcing arrangements and research and development (R&D) with partners or suppliers

A period of seven years has been identified as the time frame within which to discharge the obligation

2. REQUIREMENTS OF THE DEPARTMENT OF TRADE AND INDUSTRY

- 2.1 In order to ensure effective implementation of the programme, successful bidders (contractors) are required to, immediately after the award of a contract that is in excess of **R10 million** (ten million Rands), submit details of such a contract to the DTI for reporting purposes.
- 2.2 The purpose for reporting details of contracts in excess of the amount of R10 million (ten million Rands) is to cater for multiple contracts for the same goods, works or services; renewable contracts and multiple suppliers for the same goods, works or services under the same contract as provided for in paragraphs 1.1.(b) to 1.1. (d) above.

3 BID SUBMISSIONS AND CONTRACT REPORTING REQUIREMENTS OF BIDDERS AND SUCCESSFUL BIDDERS (CONTRACTORS)

- 3.1 Bidders are required to sign and submit this Standard Bidding Document (SBD 5) together with the bid on the closing date and time.
- 3.2 In order to accommodate multiple contracts for the same goods, works or services; renewable contracts and multiple suppliers for the same goods, works or services under the same contract as indicated in sub-paragraphs 1.1 (b) to 1.1 (d) above and to enable the DTI in determining the NIP obligation, successful bidders (contractors) are required, immediately after being officially notified about any successful bid with a value in excess of R10 million (ten million Rands), to contact and furnish
the **DTI with the following information:**

- Bid / contract number.
- Description of the goods, works or services.
- Date on which the contract was accepted.
- Name, address and contact details of the government institution.
- Value of the contract.
- Imported content of the contract, if possible.

- 3.3 The information required in paragraph 3.2 above must be sent to the Department of Trade and Industry, Private Bag X 84, Pretoria, 0001 for the attention of Mr Elias Malapane within five (5) working days after award of the contract. Mr Malapane may be contacted on telephone (012) 394 1401, facsimile (012) 394 2401 or e-mail at Elias@thedti.gov.za for further details about the programme.

4 PROCESSES TO SATISFY THE NIP OBLIGATION

- 4.1 Once the successful bidder (contractor) has made contact with and furnished the DTI with the information required, the following steps will be followed:
- a. the contractor and the DTI will determine the NIP obligation;
 - b. the contractor and the DTI will sign the NIP obligation agreement;
 - c. the contractor will submit a performance guarantee to the DTI;
 - d. the contractor will submit a business concept for consideration and approval by the DTI;
upon approval of the business concept by the DTI, the contractor will submit detailed business plans outlining the business concepts;
 - e. the contractor will implement the business plans; and

f. the contractor will submit bi-annual progress reports on approved plans to the DTI.

4.2 The NIP obligation agreement is between the DTI and the successful bidder (contractor) and, therefore, does not involve the purchasing institution.

Bid number **Closing date:**.....

Name of bidder.....

Postal address

.....

Signature..... **Name (in print)**.....

Date.....

ANNEXURE “C”

CERTIFICATE FOR MUNICIPAL SERVICES AND PAYMENTS

TO: MUNICIPAL MANAGER, POLOKWANE MUNICIPALITY

FROM: _____(Name of Bidder)

FURTHER DETAILS OF BIDDER(S); DIRECTORS/SHAREHOLDERS/PARTNERS, ETC.

Directors/shareholders/ Partner	Physical address of the Business	Municipal Account No.	Physical residential address of the Director/Shareholder/Partner	Municipal Account No.

NB: Please attach certified copy (ies) of ID document(s)

Signatory

Date

Witnesses

1. _____

Full Names

Signature

Date

2. _____

Full Names

Signature

Date

AUTHORISATION FOR DEDUCTION OF OUTSTANDING AMOUNTS OWED TO COUNCIL

TO: MUNICIPAL MANAGER, POLOKWANE MUNICIPALITY

FROM: _____ (Name of the Bidder or Consortium)

I, _____ the undersigned, hereby authorise the Polokwane Municipality to deduct the full amount outstanding by the business organisation/Director/Shareholder/Partner, etc. from any payment due by us/me.

Signed at _____ **Date** _____ **Month** _____ **20** _____

Print Name: _____

Signature: _____

Thus done and signed for and on behalf of the bidder/Contractor

_____	_____	_____
Signatory		Date
Witnesses		
1. _____	_____	_____
Full Names	Signature	Date
2. _____	_____	_____
Full Names	Signature	Date