

PART: A: INVITATION TO BID:

MBD1

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (POLOKWANE MUNICIPALITY)					
BID NUMBER:	PM 11/2021	CLOSING DATE:	15 July 2022	CLOSING TIME:	10:00 am
BID DESCRIPTION	APPOINTMENT OF A SERVICE PROVIDER FOR CONSTRUCTION OF STORMWATER CANAL PHASE 2 (MULTI-YEAR)				
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, Bodenstein and Landdros Mare Street) not later than 10:00 am on **15-07-2022**.

A Compulsory site meeting and inspection will NOT be applicable for this tender request

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 "PM 11/2021: APPOINTMENT OF A SERVICE PROVIDER FOR CONSTRUCTION OF STORMWATER CANAL PHASE 2"

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 and Polokwane Local Municipality at www.polokwane.gov.za.

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			TOTAL BID PRICE R
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	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	[IF YES ENCLOSURE PROOF]			[IF YES, ANSWER PART B:3]	

		WORKS OFFERED?	
MINIMUM WORK OPPORTUNITIES TO BE CREATED	69	CIDB GRADING	7CE OR HIGHER
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	MANAGER PMU	Mapula Mamabolo
CONTACT PERSON	Mr. K. Mashiane	TELEPHONE NUMBER	015 023 5335 / 015 023 5346
TELEPHONE NUMBER	015 203 5148	FACSIMILE NUMBER	N/A
FACSIMILE NUMBER	N/A	E-MAIL ADDRESS	mapula@polokwane.gov.za
E-MAIL ADDRESS	kwenaMa@polokwane.gov.za	Principal agent: Malambo Gwaba Company: A M Consulting Engineers Telephone: 015 295 9914 Cell: 0825211942 E-mail address: mgwaba@amce.co.za	
     EXPANDED PUBLIC WORKS PROGRAMME Creating opportunities towards human fulfilment		NDPG NEIGHBOURHOOD DEVELOPMENT PARTNERSHIP GRANT	

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 POLOKWANE MUNICIPALITY SUPPLY CHAIN MANAGEMENT POLICY, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

1.4.

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 CONSORCIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

- 3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?
YES NO
- 3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?
YES NO
- 3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?
YES NO
- 3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?
YES NO
- 3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?
YES NO

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

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

POLOKWANE MUNICIPALITY

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.
- A valid Central Supplier Database Number (CSD)
- Bid forms must be completed in full and each page of the bid initialled.
- Submission of a Joint Venture Agreement, where applicable, which has been properly signed by all parties.
- Proof of payment of municipal rates and taxes or letter from tribal authority or valid lease agreement must be attached.
- Complies with the requirements of the bid and technical specifications.
- Registered in the relevant contractor category in the Construction Industry Development Board Register of Contractor (CIDB)
- Adheres to Pricing Instructions.
- Financial ability to execute contract
- Comply in full and observe the requirements of the Notice to Bidders
- Experience with similar work – demonstrate a track record of a projects of similar scope and size
- **The tenderer must subcontract a minimum of 30% for a contract above R30 million to**
 - - a. an EME or QSE;
 - b. an EME or QSE which is at least 51% owned by black people;
 - c. an EME or QSE which is at least 51% owned by black people who are youth;
 - d. EME or QSE which is at least 51% owned by black people who are women;
 - e. an EME or QSE which is at least 51% owned by black people with disabilities;
 - f. an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;

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 cancel a contract awarded to a person if:

The person committed a corrupt or fraudulent act during the procurement process or in the execution of the contract, or

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.

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

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;

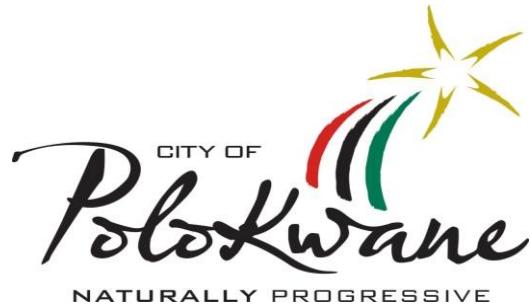
Failed, during the last five years, to perform satisfactorily on a previous contract with the Polokwane Municipality or any other organ of State after written notice was given to that bidder that performance was unsatisfactory;

Abused the supply chain management system of the Municipality or have committed any improper conduct in relation to this system;

Been convicted of fraud or corruption during the past five years;

Wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or

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 NUMBER: PM 11/2021: STORMWATER CANAL PHASE 2.

DIRECTORATE: STRATEGIC PLANNING, MONITORING AND EVALUATION

BUSINESS UNIT: PROJECT MANAGEMENT UNIT

Bids are hereby invited for APPOINTMENT OF A SERVICE PROVIDER FOR CONSTRUCTION OF STORMWATER CANAL PHASE 2.

The Council also reserves the right to negotiate further conditions and requirements with the successful bidder.

THIS BID IS SUBJECT TO THE, POLOKWANE MUNICIPALITY SUPPLY CHAIN MANAGEMENT POLICY, AND THE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS (THIRD EDITION) (2015) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

The Municipality shall adjudicate and award bids in accordance with B-BBEE status level of 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.

**MR. N.R. SELEPE
ACTING MUNICIPAL MANAGER
CIVIC CENTRE
LANDDROS MARE STREET,
POLOKWANE**

POLOKWANE MUNICIPALITY

CONTENTS OF TENDER

DOCUMENTATION Volume 1: Tender requirements, Contract and Pricing

Data		
Number	Heading	Colour
	Part T1: Tendering procedures	
T1.1	Tender Notice and Invitation to Tender	White
T1.2	Tender Data	Pink
T1.3	Standard and Particular Conditions of Tender	Pink
	Part T2: Returnable Documents	
T2.1	List of Returnable Documents	Yellow
T2.2	Returnable Schedules	Yellow
	Part C1: Agreements and Contract Data	
C1.1	Form of Offer and Acceptance	White
C1.2	Contract Data	White
C1.3	Forms for Adjudicators Appointment	White
C1.4	Occupational Health and Safety Agreement	White
	Part C2: Pricing data	
C2.1	Pricing Instructions	Yellow
C2.2	Bill of Quantities	Yellow
	Part C3: Scope of Work	
C3.1	Description of the Works	Blue
C3.2	List of Drawings	Blue
C3.3	Procurement	Blue
C3.4	Construction	Blue
C3.5	Variations and Additions to COLTO Standard Specifications for Roads and Bridgeworks for State Road Authorities and SABS 1200 Standardized Specifications for Civil Employer's Agenting Construction	Blue
C3.6	Particular Specifications – COLTO, SABS, Polokwane Municipality Electrical Specifications	Blue

C3.7	Health and Safety Specifications	Blue
C3.8	Environmental Management during Construction	Blue
C3.9	Management of the Works	Blue
Part C4: Site information		
C4	Site Information	Green
C4.1	Bid Drawings	White

POLOKWANE MUNICIPALITY

T1.2 Tender Data

CONDITIONS OF TENDER

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (SFU) of May 2010, as published in Government Gazette No 33239, Board Notice 86 of 2010 of 28 May 2010. Those Standard Conditions of Tender remained the same as those published in the previous edition of the SFU as published in Government Gazette No 31823, Board Notice 12 of 2009 of 30 January 2009 - See www.cidb.org.za.

Each Tenderer shall obtain its own copy of the Standard Conditions of Tender.

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

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

Clause number	Tender Data
2. EMPLOYER <u>Cl. F.1.1</u>	<p>The "Employer" is "Polokwane Municipality"</p> <p>The Employer's domicilium citandi et executandi (permanent physical business address) is: Polokwane Municipality, Civic Centre, Landdros Mare Street, Polokwane</p> <p>The Employer's address for communication relating to this project is: PO Box 111, Polokwane, 0700</p>
3. TENDER DOCUMENTS <u>Cl. F.1.2</u>	<p>"The following documents form part of this tender:</p> <p>VOLUME 1</p> <p>Part T1 Tendering procedures</p> <p>T1.1 Tender notice and invitation to tender T1.2 Tender data T1.3 Standard and Particular conditions to tender</p> <p>Part T2 Returnable Documents</p> <p>T2.1 List of Returnable Documents T2.2 Returnable Schedules that will be incorporated into the Contract</p> <p>Part C1 Agreements and Contract Data</p> <p>C1.1 Form of offer and acceptance C1.2 Contract data C1.3 Form for Adjudicators Appointment C1.4 Agreement in terms of Occupational Health and Safety</p> <p>Part C2 Pricing Data</p> <p>C2.1 Pricing Instructions C2.2 Bill of Quantities</p> <p>Part C3 Scope of Work</p> <p>C3.1 Description of the Works C3.2 List of Drawings C3.3 Procurement C3.4 Construction C3.5 Variations and Additions to COLTO and SABS 1200 Standardized Specifications C3.6 Particular Specifications C3.7 Health and Safety Specifications C3.8 Environmental Management during Construction C3.9 Management of the Works</p> <p>Part C4 Site information</p> <p>Appendix A: Tender Drawings</p>

Clause number	Tender Data
4. <u>EMPLOYER'S AGENT</u> <u>CI. F.1.4</u>	<p>The Employer's agent's is: AM Consulting Engineers (Pty) Ltd</p> <p>Physical Address: 9 Neethling Street Bendor</p> <p>Polokwane</p> <p>Contact: Mr Malambo Gwaba</p> <p>Tell: 015 295 9914 Fax: 015 295 9914 Cell: 082 521 1942</p> <p>Postal Address: 9 Neethling Street Bendor</p> <p>Polokwane</p>
5. <u>TENDERER'S OBLIGATIONS</u>	
5.1. <u>Eligibility</u> <u>CI. F.2.1</u>	<p>Only those tenderers who can demonstrate that they will have in their employ management and supervisory staff satisfying the requirement of the scope of work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders</p>
5.2. <u>F2.18</u>	<p>The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.</p>
5.3. <u>Site Visit and Clarification</u>	<p>A compulsory site meeting and inspection will NOT be necessary for this tender request</p> <p>:</p>
5.4. <u>Insurance</u> <u>CI. F.2.9</u>	<p>No insurance cover will be provided by the Employer.</p>
5.5. <u>Alternative Tender Offers</u> <u>CI. F. 2.12</u>	<p>Unless anything to the contrary has been determined in the Contract Data, a Tenderer may, together with his tender for the original designs contained in the contract documents, submit alternative designs and tender offers for consideration. All designs, calculations, drawings and Operation and Maintenance manuals shall be fully endorsed by a third-party registered Employer's Agent, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor. Such alternative designs and offers shall be subject to the following conditions and requirements:</p> <p>5.4.1. <u>Tenders</u></p> <p>An alternative offer or design will be considered only if the tender for the original items been fully priced and completed. The alternative tender offer is to be submitted in the same envelope as the main tender offer, together with a schedule that compares the requirements of the tender documents with the alternative requirements the Tenderer proposes. No alternative tender will be considered unless a tender free from qualifications is also submitted.</p>

Clause number	Tender Data
	<p>Unless the alternative offer stipulates to the contrary, it shall be assumed that the period for completion of the Works shall be the same as for the original design.</p> <p>Designs, calculations, drawings and a modified schedule of quantities (as determined hereafter) in respect of each alternative offer or design shall accompany the alternative tender offer and shall be endorsed fully by a third party registered Employer's Agent, accomplished in such specific field of practice.</p> <p>5.4.2. <u>Preliminary calculations</u></p> <p>Preliminary calculations for an alternative design shall be submitted with the tender. Such calculations shall give adequate details to enable an assessment to be made of the general efficacy of the design and of its principal elements, also of the degree to which the design prescriptions and codes of the Employer are being complied with. The calculations shall be clear and in a logical sequence and shall clearly reflect all the design assumptions.</p> <p>5.4.3. <u>Preliminary drawings</u></p> <p>Preliminary drawings of the alternative designs shall also be submitted with the tender. These drawings shall comprise adequate layout plans, elevations and sections and shall clearly illustrate the general efficacy of the design and its principal elements.</p> <p>5.4.4. <u>Quantities</u></p> <p>Each alternative offer shall be accompanied by a modified priced schedule of quantities compiled in accordance with the specifications, in so far as it is applicable, which clearly shows the manner in which the price for the alternative offer has been determined and the items in the original schedule of quantities which fall away or are being changed. In addition to the schedule of quantities, a set of calculations shall be supplied to show how the quantities have been determined. All assumptions in regard to factors which will determine quantities shall be clearly and conspicuously marked by underlining or colouring and shall indicate whether or not the assumptions have been based on information furnished in the Contract Data (with the necessary references).</p> <p>5.4.5. <u>Further details</u></p> <p>Should the Employer's Agent find that the calculations and drawings submitted for alternative designs are not complete enough for proper adjudication of the alternative designs, the Employer reserves to itself the right to call on the Tenderer to submit such further calculations and drawings as may be required. If such further details are not submitted within ten days of having been requested, the alternative designs will not be given further consideration.</p> <p>5.4.6. <u>Preliminary adjudication of alternative designs</u></p> <p>The Employer's Agent will undertake a preliminary scrutiny of any alternative designs for compliance with the specified requirements of the Employer. Should he find any mistakes or unsatisfactory aspects, he may afford the Bidder the opportunity to rectify them within a period to be determined by the Employer's Agent. However, it is emphasized that the preliminary scrutiny of the design and tender by the Employer's Agent, by its very nature, cannot be comprehensive, and no guarantee can be given in this regard that all the mistakes made by the Bidder will in fact be detected. Any correction of such mistakes shall be made with the tender price of the bidder being retained, and, wherever necessary, the priced schedule of quantities for the alternative design shall be adjusted accordingly.</p>

Clause number	Tender Data
	<p>5.4.7. <u>Acceptance of alternative design</u></p> <p>The Bidder shall note that the acceptance of a tender which includes alternative designs shall mean that the alternative designs have been approved in principle only. If the final calculations, drawings and details do not comply with the specified requirements, such alternative designs may be rejected, unless they are suitably amended by the Bidder so as to be acceptable to the Employer.</p> <p>5.4.8. <u>Final drawings and calculations and the priced schedule of quantities</u></p> <p>Where a tender with an alternative design has been accepted, the Contractor shall, not less than two months before he intends starting with the construction of such design, submit to the Employer's Agent a complete set of working drawings, detailed calculations and a complete schedule of quantities, for approval. The schedule of quantities shall be based on the preliminary schedule of quantities, but with the necessary adjustments in quantities and prices and with the tendered price for the alternative design being retained.</p> <p>Within three weeks of having received the above, the Employer's Agent will indicate which drawings, calculations, quantities, prices and other particulars are acceptable to him and which not, with reasons furnished. The Contractor shall then submit to the Employer's Agent in good time any modified drawings and other particulars for approval, for which he will require two weeks. Any delay arising from the fact that the amended particulars do not meet the requirements shall be the responsibility of the Contractor.</p> <p>No work which will be affected by an alternative design may be commenced, unless the drawings, schedule of quantities and prices for such alternative design have been approved. Should the Contractor fail to modify any drawings, calculations, quantities, prices or any other particulars to the satisfaction of the Employer's Agent, the alternative design will be rejected, and the original design shall be constructed for the same amount as has been tendered for the alternative design.</p> <p>5.4.9. <u>Responsibility for alternative design</u></p> <p>The approval of a design by the Employer's Agent shall not in any way relieve the Bidder of his responsibility to produce a design which conforms in all respects to all the specified requirements and which will be suitable for the purpose envisaged. Should it appear later during construction or during the maintenance period that the design does not conform to the specified requirements, the Contractor only, shall be liable for any damage arising there from and he shall, at his own expense, do all the necessary work to ensure that the Works conforms to all the specified requirements.</p> <p>5.4.10. <u>Indemnity</u></p> <p>Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Employer, its agents and assigns, against all claims howsoever arising out of the said design whether in contract or delict.</p>
<p>5.6. Submitting a Tender Offer Cl. F2.13</p>	<p>5.5.1. <u>Whole of the Works</u> (Cl. F.2.13.1)</p> <p>Tenderers shall offer to provide for the whole of the Works identified.</p> <p>5.5.2. <u>Original tender documents</u> (Cl. F2.13.3)</p> <p>The original tender document, issued to the Bidder, shall be submitted in its entirety. No copies are required.</p>

Clause number	Tender Data
	<p>5.5.3. <u>Marking of Tender Submissions</u> (Cl. F2.13.5)</p> <p>The complete tender documents shall be enclosed and sealed in a single envelope, marked:</p> <p>“BID NO. PM 11/2021: STORMWATER CANAL PHASE 2.</p> <p>The Employer’s address for delivery of tender offers to be shown on each tender submission package is the Tender Box located at:</p> <p style="padding-left: 40px;">Polokwane Municipality Civic Centre Landdros Mare Street Polokwane</p> <p>5.5.4. <u>Two envelope system</u> (Cl. F.2.13.6)</p> <p>A two-envelope procedure will NOT be followed.</p> <p>5.5.5. <u>Closing time</u> (Cl. F.2.15)</p> <p>The closing time for submission of tender offers is: 10H00 AM on the 15-07-2022.</p> <p>Telegraphic, telephonic, telex, facsimile, e-mail, electronic and late tender offers will not be accepted.</p> <p>5.5.6. <u>Tender offer validity</u> (Cl. F.2.16)</p> <p>The tender offer validity period is 90 days after tender closing date.</p> <p>5.5.7. <u>Clarification of tender offer after submission</u> (Cl. F.2.17)</p> <p>Delete the last part of the second sentence, commencing with the word “and”. Furthermore, delete the last two sentences of Cl. F2.17.</p> <p>Add the following sentence: “The rates stated by the Bidder shall be binding”.</p> <p>5.5.8. <u>Provide other Material</u> (Cl. F.2.18.1)</p> <p>Upon request by the Employer, the Bidder shall promptly supply any other material that has a bearing on the tender offer, the bidder’s commercial position (including, where applicable, notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the Employer for the purpose of a full and fair assessment. Should the Bidder not provide the information or material called for, by the time for submission stated in the Employer’s request, the Employer will regard the tender offer as being non-responsive.</p> <p>5.5.9. <u>Certificates</u> (Cl. F.2.23)</p> <p>The following certificates are to be provided with this tender:</p> <ol style="list-style-type: none"> A valid Central Supplier Database (CSD) number Compensation Fund registration certificate Certificate of Contractor Registration issued by the Construction Industry Development Board (CIDB) or a copy of the application Form for registration in terms of the Construction Industry Development Board Act (Form F006). <p>A minimum grading of 7CE is required.</p>

Clause number	Tender Data
	<p>Important Note: Failure to provide the required particulars as per the above-listed certificates implies a non-responsive tender and warrants rejection of the tender on account of non-compliance with the requirements of the Tender Data</p>
6. EMPLOYER'S UNDERTAKING	
<p>6.1. <u>Opening of Tender Submissions</u> Cl. F3.4</p>	<p>The time and location for opening of the tender offers are: 10:00 am on 08-07-2022</p> <p>Location: Tender Box, Polokwane Municipality, 3rd Floor Boardroom, Civic Centre, Landdros Mare Street, Polokwane</p>
<p>6.2. <u>Arithmetical Errors</u> Cl. F.3.9.1</p>	<p>Delete paragraphs (b) and (c) of Cl. F.3.9.1 and replace with:</p> <p>b) If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the tender offer will be corrected by the Employer in determining the Contract Price.</p> <p>c) Where there is an error in addition, either as a result of other corrections required by this checking process or in the Bidder's addition of prices, such error will be corrected by the Employer in determining the Contract Price.</p> <p>d) The Contract Price for the completed Contract shall be computed from the actual quantities of authorised work done and compliant with the Contract Data, valued at rates contracted against the respective items in the bill of quantities, schedule of Quantities or schedule of rates and shall include such authorised Provisional Sums and items of extra work as have become payable in terms of the Contract Data.</p>
<p>7. ACCEPTANCE OF TENDER OFFER Cl. F3.13</p>	<p>Tender offers will only be accepted if:</p> <ul style="list-style-type: none"> a) The bidder has a valid Central Supplier Database (CSD) number b) The bidder is registered with the Construction Industry Development Board in an appropriate contractor grading designation. A minimum grading of 7CE is required for the main contractor; c) The bidder has demonstrated previous experience with the type of work required under this contract having successfully completed projects of similar scope and size. d) The bidder or any of its principals is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and e) The bidder has not abused the Employer's Supply Chain Management System.

Clause number	Tender Data
	f) g) The bidder has not failed to perform on any previous contract. has complete the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the bidder's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.
8. <u>PROVIDE</u> COPIES OF THE CONTRACT DOCUMENT CI. F.3.18	The number of paper copies of the signed Contract to be provided by the Employer to the successful bidder is one

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) Status level certificate issued by an authorized body or person; B-BBEE
 - 2) affidavit as prescribed by the B-BBEE Codes of Good Practice; A sworn
 - 3) requirement prescribed in terms of the B-BBEE Act; Any other
- (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
$P_S = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	or	$P_S = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$

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

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
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 last 51% owned by:	EME	QSE
Black people	✓	✓
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
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 proprietor
- 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:.....

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-BBEE 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 *audia alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution

WITNESSES

1.

2.

.....
SIGNATURE(S) OF BIDDERS(S)

DATE:

ADDRESS

.....

.....

ANNEXURE A
SUPPLY CHAIN MANAGEMENT
EVALUATION PROCESS AND CRITERIA

The following evaluation process and criteria will be used to evaluate all bids submitted:

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:

- Provide a valid Central Supplier Database (CSD) number (Attach CSD Registration Summary Report)
- All Pages of the Bid document must be initialled.
- Completed and signed declaration on past SCM practices form Compulsory enterprise questionnaire completed
- Signed J/V agreement must be attached (Where applicable) Proof of registration with CIDB attached.
- Submission of municipal rates and taxes statement of account for the company and all their directors which are not older than three (3) months or valid lease agreement for service provider who are renting or leasing offices or letter from tribal authority not older than three months.
- Complete **MBD5** and submit Audited Financial Statements (**AFS**) or Reviewed Financial Statements for the past three (3) years – (Only where the tender amount **exceeds R10mil** - including VAT)
- Complete and signed Declaration of Interest (MBD4)
- Bid document should be printed in colour as per page 8
- All corrections on the bid document to be initialled

2. Functionality – Phase Two (50 points allocation)

The bidders who complied administratively are considered for further evaluation on ability to execute the project.

The assessment of functionality will be done in terms of the evaluation criteria and minimum threshold as specified. A bid will be disqualified if it fails to meet the minimum threshold for functionality as per the bid invitation.

2.1 Relevant Experience of Company (25 points)

This will take into consideration similar contracts successfully completed by the bidder.

NB. Proof of largest similar projects completed must be attached (Completion certificate). Failure to provide proof will result in deduction of points.

The score will be calculated as follows:

$$Rt = \frac{Lc}{Tavg} \times R_{max}$$

Where:

Rt = Points for relevant experience of company

Lc = Largest similar contract over the last **three (3) years. (Determined on project size)**.

Tavg = Average value of tendered amounts of eligible tenders.

Rmax = Maximum points allocated for relevant experience of company.
(R max = 25)

2.2 Plant and Equipment (15 points)

This will be assessed against a minimum number of different types of plant and equipment required to successfully complete the project within the stipulated construction period as determined by the Employer's Agent.

Access to plant may be in a form of ownership, hire or leasing arrangements, orders etc. A letter of intent from hiring or leasing companies stating the number and type of plant and equipment on which arrangement has been made must be submitted. Any changes to the lease/hire agreement must be approved by the Municipality prior commencement.

NB. **50% of points will be allocated to equipment leased/hired.**

Consultants Estimation				
(A) Plant and equipment required	points allocation	(B) Minimum Plant required	(C) Bidder Plant own	(D) Bidder Plant hire
Grader (140G or equivalent)	4	1		
Tipper Truck (6 – 10m ³)	2	2		
Water Tanker	3	1		
Excavator (20-ton minimum)	4	1		
TLB (4X4)	2	1		

NB. **Proof of ownership on equipment indicated above must be submitted with the bid document. Failing to submit will result in deduction of points.**

2.3 Financial Status (10 points)

This will be assessed against Bank ratings as follows: **(A Bank letter Must be submitted; not older than 30 days)**

Bank Rating	Score
A	10
B	10
C	7
D	5
E	2
F,G,H	0

NB: A bid will be disqualified if it fails to meet the minimum threshold of 60% on functionality and a minimum of 15 points on relevant experience.

2.4 Commercial Risk Analysis

Prior to being recommended for further evaluation, a bid will be subjected to risk analysis to ensure that it would, if accepted, not place the Municipality or the bidder, at undue risk.

A risk analysis will be performed to ascertain if any of the following might present an unacceptable commercial risk to the Municipality:

- Unduly low tendered sums
- Unduly high individual rates

- Unduly low rates
- Imbalances in pricing

The bidders will be disqualified if the commercial risk analysis indicate unacceptable commercial risk to the Municipality.

Tendered rates

Rates for all the bids which have complied with the bid conditions will be assessed for the following:

- Comparison of rates and amounts with the average tendered amount.
- Sensitivity Analysis of Rates (i.e. whether the rates are balanced, acceptable, etc).
- Expected cash flows requirements.

NB: Bids with unbalanced rates will be disqualified for further evaluation on price and preference points system

3 Business Registration

Prospective bidders shall be registered:

- With the South African Revenue Services for all categories of taxes applicable to it.
- With the Compensation Commissioner
- With the Construction Industry Development Board (a minimum grading of **7CE** is required)

4 Acceptance of Tender Offer (Cl. F3.13)

Tender offers will only be accepted if:

- The has a valid Central Supplier Database (CSD) number
- The bidder is registered with the Construction Industry Development Board in an appropriate contractor grading designation.
- A minimum grading of **7CE** is required;
- the bidder or any of its principals is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and
- The bidder has not abused the Employer's Supply Chain Management System.
- The bidder has not failed to perform on any previous contract.
- has complete the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the bidder's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.

• Provide copies of the Contract Document (Cl. F3.18)

The number of paper copies of the signed Contract to be provided by the Employer to the successful bidder is **one**

Annexure A: Standard Conditions of Tender

F.1 General

F.1.1 Actions

The employer and each Tenderer submitting a Tender offer shall comply with these conditions of Tender. In their dealings with each other, they shall discharge their duties and obligations as set out in F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently.

F.1.2 Tender Documents

The documents issued by the employer for the purpose of a Tender offer are listed in the Tender data.

F.1.3 Interpretation

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

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

F.1.3.3 For the purposes of these conditions for the calling for expressions of interest, the following definitions apply:

- **Comparative offer** means the Tenderer's financial offer after the factors of non-firm prices, all unconditional discounts and any other Tendered parameters that will affect the value of the financial offer have been taken into consideration
- **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the Tender process; and
- **Fraudulent practice** means the misrepresentation of the facts in order to influence the Tender process or the award of a contract arising from a Tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- **Quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

F.1.4 Communication and employer's agent

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

F.1.5 The employer's right to accept or reject any Tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, Tender offer, or alternative Tender offer, and may cancel the Tender process and reject all Tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a Tenderer for such cancellation and rejection, but rejection will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a Tender process or the rejection of all responsive Tender offers re-issue a Tender covering substantially the same scope of work within a period of six months unless only one Tender was received and such Tender was returned unopened to the Tenderer.

F.2 Tenderer's obligations

F.2.1 Eligibility

Submit a Tender offer only if the Tenderer satisfies the criteria stated in the Tender data and the Tenderer, or any of his principals, is not under any restriction to do business with employer.

F.2.2 Cost of Tendering

Accept that the employer will not compensate the Tenderer for any costs incurred in the preparation and submission of a Tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.

F.2.3 Check documents

Check the Tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the Tender offer

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

F.2.10.2 Show VAT payable by the employer separately as an addition to the Tendered total of the prices.

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

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

F.2.11 Alterations to documents

Not make any alterations or additions to the Tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the Tenderer. All signatories to the Tender offer shall initial all such alterations. Erasures and the use of masking fluid are prohibited.

F.2.12 Alternative Tender offers

F.2.12.1 Submit alternative tender offer only if a main tender offer, strictly in accordance with all the requirements of the tender document, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender document with the alternative requirements the tenderer proposes.

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

F.2.13 Submitting a Tender offer

F.2.13.1 Submit a Tender offer to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the Tender data.

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

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

F.2.13.4 Sign the original and all copies of the Tender offer where required in terms of the Tender data. The employer will hold all authorized signatories liable on behalf of the Tenderer. Signatories for Tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the Tender offer.

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

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

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

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

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

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

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the Tender offer at the address specified in the Tender data not later than the closing time stated in the Tender data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept Tender offers submitted by telegraph, telex, facsimile or e-mail, unless stated otherwise in the Tender data.

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

F.2.16 Tender offer validity

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

F.2.16.2 If requested by the employer, consider extending the validity period stated in the Tender data for an agreed additional period.

F.2.17 Clarification of Tender offer after submission

Provide clarification of a Tender offer in response to a request to do so from the employer during the evaluation of Tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the total of the prices or substance of the Tender offer is sought, offered, or permitted. The total of the prices stated by the Tenderer shall be binding upon the Tenderer.

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

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the Tender offer, the Tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the Tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the Tender offer as non-responsive.

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

F.2.19 Inspections, tests and analysis

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

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

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

F.2.21 Check final draft

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

F.2.22 Return of other Tender documents

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

F.2.23 Certificates

Include in the Tender submission or provide the employer with any certificates as stated in the Tender data.

F.3 The employer's undertakings

F.3.1 Respond to clarification

Respond to a request for clarification received up to five working days before the Tender closing time stated in the Tender Data and notify all Tenderers who drew procurement documents.

F.3.2 Issue Addenda

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

F.3.3 Return late Tender offers

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

F.3.4 Opening of Tender submissions

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

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

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

F.3.5 Two-envelope system

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

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

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

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

- complies with the requirements of these Conditions of Tender,
- has been properly and fully completed and signed, and
- is responsive to the other requirements of the Tender documents.

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

- Detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,

- Change the Employer's or the Tenderer's risks and responsibilities under the contract, or,
- Affect the competitive position of other Tenderers presenting responsive Tenders, if it were to be rectified. Reject a non-responsive Tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors

F.3.9.1 Check responsive Tender offers for arithmetical errors, correcting them in the following manner:

- Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
- If bills of quantities (or schedule of quantities or schedule of rates) apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the Tenderer's addition of prices, the total of the prices shall govern and the Tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the Tendered total of the prices.

F.3.9.2 Consider the rejection of a Tender offer if the Tenderer does not correct or accept the correction of his arithmetical errors in the manner described in F.3.9.1.

F.3.10 Clarification of a Tender offer

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

F.3.11 Evaluation of Tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive Tender offer to a comparative offer and evaluate it using the Tender evaluation method that is indicated in the Tender Data and described below:

Method Financial offer	1: 1) Rank Tender offers from the most favourable to the least favourable comparative offer.
	2) Recommend highest ranked Tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 2: Financial offer and preferences	1) Score Tender evaluation points for financial offer.
	2) Confirm that Tenderers are eligible for the preferences claimed and if so, score Tender evaluation points for preferencing.
	3) Calculate total Tender evaluation points.
	4) Rank Tender offers from the highest number of Tender evaluation points to the lowest.
	5) Recommend Tenderer with the highest number of Tender evaluation points for the

	award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 3: Financial offer and quality	1) Score quality, rejecting all Tender offers that fail to score the minimum number of points for quality stated in the Tender data.
	2) Score Tender evaluation points for financial offer.
	3) Calculate total Tender evaluation points.
	4) Rank Tender offers from the highest number of Tender evaluation points to the lowest.
	5) Recommend Tenderer with the highest number of Tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
Method 4: Financial offer, quality and preferences	1) Score quality, rejecting all Tender offers that fail to score the minimum number of points for quality stated in the Tender data.
	2) Score Tender evaluation points for financial offer.
	3) Confirm that Tenderers are eligible for the preferences claimed, and if so, score Tender evaluation points for preferencing.
	4) Calculate total Tender evaluation points.
	5) Rank Tender offers from the highest number of Tender evaluation points to the lowest.
	6) Recommend Tenderer with the highest number of Tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.2 Scoring Financial Offers

Score the financial offers of remaining responsive Tender offers using the following formula:

NFO = $W1 \times A$ where:
 NFO = the number of Tender evaluation points awarded for the financial offer.
 W1 = the maximum possible number of Tender evaluation points awarded for the financial offer as stated in the Tender Data.
 A = a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

Formula	Comparison aimed at achieving	Option 1	Option 2
1	Highest price or discount	$A = (1 + \frac{P - Pm}{Pm})$	$A = P / Pm$
2	Lowest price or percentage commission / fee	$A = (1 - \frac{P - Pm}{Pm})$	$A = Pm / P$

where:

Pm = the comparative offer of the most favourable Tender offer.
P = the comparative offer of Tender offer under consideration.
F.3.11.3 Scoring quality (functionality)

Score quality in each of the categories in accordance with the Tender Data and calculate total score for quality.

F.3.12 Insurance provided by the employer

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

F.3.13 Acceptance of Tender offer

F.3.13.1 Accept Tender offer only if the Tenderer complies with the legal requirements stated in the Tender Data.

F.3.13.2 Notify the successful Tenderer of the employer's acceptance of his Tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the Tender data, or data agreed additional period. Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful Tenderer as described in the form of offer and acceptance.

F.3.14 Notice to unsuccessful Tenderers

After the successful Tenderer has acknowledged the employer's notice of acceptance, notify other Tenderers that their Tender offers have not been accepted.

F.3.15. Prepare contract documents

If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the Tender documents to take account of:

- addenda issued during the Tender period,
- inclusion of some of the returnable documents,
- other revisions agreed between the employer and the successful Tenderer, and
- the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.16 Issue final contract

Prepare and issue the final draft of contract documents to the successful Tenderer for acceptance as soon as possible after the date of the employer's signing of the form of offer and acceptance (including the schedule of deviations, if any). Only those documents that the conditions of Tender require the Tenderer to submit, after acceptance by the employer, shall be included.

F.3.17 Complete adjudicator's contract

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

F.3.18 Provide copies of the contracts

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

A: SCHEDULE OF LABOUR CONTENT

The Tenderer must complete the table below to reflect the labour force anticipated to be employed on this contract, including labour employed by sub-contractors.

The specified target value is **5%** of the contract value

Type of Labour	Man-hours	Minimum Wage Rate per Unit	Total Wage Cost (Excl. VAT)
Permanent Labour			
Temporary Labour			
SMME/HDI's Labour			
TOTAL PERCENTAGE			

Notes to Tenderer:

1. Labour is defined as hourly paid personnel.
2. The penalty will be applied for non-compliance during the contract or for fraudulent disclosure
3. A daily Wage Rate of R191.60

SIGNED ON BEHALF OF THE TENDERER:

B: EMPLOYMENT OF AFFIRMATIVE BUSINESS ENTERPRISE (ABE)

Target values of work to be executed by and goods & services to be procured from ABEs shall be **10%**.

Schedule Item No	Name of ABE	Item Description/ Goods & Services to be provided	Value	
			Rands (Excl. VAT)	% of Tender Sum (Excl. VAT)
TOTAL				

Notes to tenderer:

Regardless whether the tenderer fits the classification of an SMME/PDI, as defined in Section 3.3 of this specification, the tenderer nevertheless retains the obligation to commit to the target values prescribed. Tenderers shall insert "unknown" if an SMME/PDI has not been selected prior to tender closing date.

The penalty will be applied for non-compliance during the contract or for fraudulent disclosure

SIGNED ON BEHALF OF THE TENDERER

B.1 EMPLOYMENT OF AFFIRMATIVE BUSINESS ENTERPRISE DECLARATION AFFIDAVIT (ABE).

It is understood and agreed that should this contract be awarded to me; an ABE Declaration Affidavit will be completed by each and every ABE employed by me on this contract and will be submitted to the Employer immediately upon demand by the Employer.

SIGNED ON BEHALF OF THE TENDERER

1. TRAINING

Name of Training Institution:.....

Name of Programme:.....

Trainer's Name	Qualification	Subject

Notes to tenderer:

Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.

SIGNED ON BEHALF OF THE TENDERER.....

2. **EMPLOYER'S AGENT STUDENT TRAINING**

Name of Training Institution:.....

Name of Programme:.....

Trainer's Name	Qualification	Subject

Notes to tenderer:

Provide details here, or attach hereto, the subjects to be covered and the manner in which the training is to be delivered.

Provision should also include on-job student / (in-service) training for the duration of the project at a monthly stipend of R 4,500.00.

SIGNED ON BEHALF OF THE TENDERER

POLOKWANE MUNICIPALITY

T2.1 List of Returnable Documents

The Tenderer must complete the following returnable documents:

Returnable Schedules required only for Tender evaluation purposes

- a. Certificate of Authority of Signatory
- b. Certificate of Registration with the Construction Industry Development Board
- c. Certificate of authority for joint ventures (where applicable)
- d. Compulsory Enterprise Questionnaire
- e. Record of Addenda to Tender Documents
- f. Proposed Amendments and Qualifications
- g. Form of Intent to Provide a Demand Guarantee
- h. Schedule of Subcontractors
- i. Schedule of Available Infrastructure, Resources and Experience
- j. Financial Information of the Tenderer
- k. Certificate for Municipal Services and Payments: Annexure B
- l. Authorisation for deduction of outstanding amounts owed to Council: Annexure C
- m. Declaration of Tenderer's Past Supply Chain Management Practices: MBD 8
- n. Declaration of interest : SBD 4
- o. National industrial participation programme :SBD 5
- p. Declaration for procurement above R10 Million :MBD 5
- q. Declaration certificate for local production and content: MBD 6.2
- r. Certificate of the Independent Tender Determination: MBD 9
- s. Compliance with OHSA (Act 85 of 1993)
- t. Original Bank rating letter
- u. Day Works

Other documents required only for Tender evaluation purposes

- i. Compensation Fund Registration
Certificate Curricula Vitae of
Personnel
- ii. Rates of Labour and Materials (Day work Rates)
- iii. Copy of company registration certificate (C.K. Certificate) with shareholding
- iv. An original valid Tax Clearance Certificate issued by the South African
Revenue Services.
- v. Schedule of Labour
Content

Employment of
ABE'S

- vi. ABE Declaration
Affidavit Generic
Training
- vii. Complete MBD 5 where the Tender amount inclusive of VAT exceeds R 10 million:

Other documents that will be incorporated into the contract

- 3.1 The offer portion of the C1.1 Offer and Acceptance
- 3.2 C1.2 Contract Data (Part 2)
- 3.3 C2.2 Bills of Quantities

CERTIFICATE OF AUTHORITY OF SIGNATORY

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

1	Company	<input type="checkbox"/>
2	Partnership	<input type="checkbox"/>
3	Joint Venture	<input type="checkbox"/>
4	Sole Proprietor	<input type="checkbox"/>
5	Close Corporation	<input type="checkbox"/>

Certificate for company

I, , chairperson of the board of directors of , hereby confirm that by resolution of the board

(copy attached) taken on 20.....,

Mr/Ms ,
acting in the capacity of , was authorised to sign all documents in connection with this Tender and any contract resulting from it on behalf of the company.

As witnesses:

1. Chairman

..... Print Name

2. Date

..... Print Name

Certificate of partnership

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

Name	Address	Signature	Date

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

3. Certificate for Joint Venture

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

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

Name of Firm	Address	Authorising	
		Signature	Name
Lead Partner			

Certificate for sole proprietor

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

as

As witnesses:-

.....
Signature: Sole Owner
.....

Print Name

Print Name

2.

.....

.....
Print Name

.....
Date

1. Certificate for Close Corporation

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

Name	Address	Signature	Date

Note: This Certificate is to be completed and signed by each and all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

CERTIFICATE OF REGISTRATION WITH THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

General

The Register of Contractors is established by the Construction Industry Development Board in terms of the CIDB Act 38 of 2000 and Construction Industry Development Regulations as published in Government Gazette number 26427 of 2004.

The Act makes it mandatory for public sector clients to apply this register when considering Tenders. Any enterprise that submits a Tender or enters into contract for construction works with the public sector, must be registered.

Once-off joint ventures do not have to register, provided that each partner of the joint venture is separately registered.

Status

Tenderers shall fill in the following sections of this form, depending on their status:

2.1 Section A

Tenderers who have accomplished registration and can provide proof of their grading designation.

2.2 Section B

Tenderers who are in the process of registration of an update to an existing registration or a renewal.

2.3 Section C

Tenderers who have submitted the first application.

2.4 Section D

Tenderers submitting this Tender offer in Joint Venture and can provide proof that each partner of the Joint Venture is separately registered.

Note: Only complete one of Sections A, B, C or D.

SECTION A

I, Acting in capacity of

was authorised to sign all documents in connection with this Tender an any contract resulting from it on

behalf of the following entity:

hereby declare that the above-mentioned entity has achieved registration with the Construction Industry Development Board on date and declare that the grading designation is reflected in the following **symbols** on the registration certificate.

Contract Value

Type of Work

.....
Signature of Tenderer

.....
Signature of Witness

Print Name

Print Name

SECTION B

I, acting in capacity of

was authorised to sign all documents in connection with this tender an any contract resulting from it on

behalf of the following entity:

hereby declare that the above-mentioned entity has achieved registration with the Construction Industry Development Board on date, furthermore declare that the existing grading designation is:

Contract Value	
----------------	--

Type of Work		
--------------	--	--

and the following update has been applied for:

Amendment of category status	
Change of Particulars	
Annual confirmation of Particulars	
Renewal of Registration	

mark with "X"

.....
Signature of Tenderer

.....
Print Name

.....
Signature of Witness

.....
Print Name

SECTION C

I, acting in capacity of
was authorised to sign all documents in connection with this tender an any contract resulting from it on

behalf of the following entity:

hereby declare that the above mentioned entity has submitted its FIRST APPLICATION FOR
REGISTRATION with the Contraction Industry Development board on date

I furthermore accept that failure to achieve registration with the Construction Industry Development Board in a category stipulated in the Tender Data within 10 days from the date of closing this tender, implies a non-responsive tender and warrants rejection of the Tender on account of non-compliance with the requirements of the Tender Data.

.....
Signature of Tenderer

.....
Signature of Witness

.....
Print Name

.....
Print Name

SECTION D

I, acting in capacity of the LEAD PARTNER in the Joint Venture

was authorised to sign all documents in connection with this tender and any contract resulting from it, hereby declare that each partner of the Joint Venture is separately registered with the Construction Industry Development Board and declare that the grading designation is reflected in the following **symbols** on the registration certificates:

Name of Lead Partner:	Contract Value	
	Type of Work	

Name of 2 nd Partner:	Contract Value	
	Type of Work	

Name of 3 rd Partner:	Contract Value	
	Type of Work	

Signature of Tenderer

Signature of Witness

Print Name

Print Name

B.**CERTIFICATE OF AUTHORITY FOR JOINT VENTURES (WHERE APPLICABLE)**

Employer:

Contract Number:

NOTE 1 This form need only be completed in the event of a Joint Venture submitting this Tender.

NOTE 2 Fill in all the information requested in the spaces provided. Attach additional sheets if required.

NOTE 3 Provide a copy of the Joint Venture agreement. Demonstrate that the partners to the Joint Venture share in the ownership, control, management responsibilities, risks and profits of the Joint Venture. The Joint Venture agreement shall include specific details relating to:

- the contributions of capital and equipment;
- portions of the Contract to be performed by the partner's own resources; and
- portions of the Contract to be performed under the supervision of each partner.

NOTE 4 Provide copies of all written agreements between partners concerning the Joint Venture, including those that relate to ownership options and to restrictions/limits regarding ownership and control.

1. Joint Venture Particulars

Name

Postal Address

Physical Address

.....
Telephone

Fax

Name of authorized representative

2. Identity of Partner No. 1

Name

Postal Address

Physical Address

.....
Telephone

Fax

Contact Person.....

3. Identity of Partner No. 2

Name

Postal Address

Physical Address

.....

Telephone

Fax

Contact Person

4. Identity of Partner No. 3

Name

Postal Address

Physical Address

.....

Telephone

Fax

Contact Person

5. Description of the role of the partners in the joint venture

Partner No. 1:

.....

Partner No. 2:

.....

Partner No. 3:

.....

6. Ownership of the joint venture

(i) Ownership percentage(s) Partner No. 1 %

Partner No. 2 %

Partner No. 3 %

(ii) Partner percentage in respect of:

a) Profit and loss sharing: Partner No. 1

%

Partner No. 2 %

.....
Partner No. 3 R.....

Anticipated ongoing capital contributions:

Partner No. 1 R.....

Partner No. 2 R.....

(iii) Partner No. 3 R.....

P
a
r
t
n
e
r

N
o
.

3

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

.

%

b) Initial capital
contribution

Partner No. 1 R.....

P
a
r
t
n
e
r

N
o
.

2

R
...
...
...
...
...

Contributions of equipment (specify types, quality and quantities of equipment) to be provided by each partner:

Partner No. 1:

.....

Partner No. 2:

.....

Partner No. 3:

.....

7. Recent contracts performed by partners in their own right or as partners in other joint ventures

Partner No. 1

.....

.....

.....

.....

Partner No. 2

.....

.....

.....

Partner No. 3

.....

.....

.....

8.

Control and participation in the joint venture

(Identify by name and firm those individuals who are, or will be, responsible for, and have authority to engage in the relevant management functions and policy and decision making, indicating any limitations in their authority, for example, co-signature requirements and monetary limits).

Joint Venture cheque signing

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

Authority to enter into contracts on behalf of the Joint Venture

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

Signing, co-signing or collateralizing of loans

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

Acquisition of lines of credit

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

Acquisition of demand bonds

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

Negotiating and signing of labour agreements

9.

Management of the performance of the Contract

(Fill in the name and firm of the responsible person)

Supervision of field operations.....

Major purchasing.....

Estimating.....

Technical management.....

Management and control of the joint venture

Identify the managing partner

What authority does each partner have to commit or obligate the other to financial institutions, insurance companies, suppliers, subcontractors or other parties participating in the performance of the contemplated works:

Partner No. 1:

Partner No. 2:

Partner No. 3:

Describe the management structure for the joint venture's work under this Contract

Management Function/Designation	Name	Partner

Personnel

State the approximate number of operative personnel (by trade/function/discipline) needed to execute the Joint Venture contract.

Trade/function/discipline	Number

State the number of operative personnel to be employed on the Contract who are currently in the employ of partners:

.....

State the number of operative personnel who are not currently in the employ of the respective partners and shall be engaged on the project by the Joint Venture:

.....

State the name of the individual who shall be responsible for hiring Joint Venture employees:

.....

State the name of the partner who shall be responsible for the preparation of Joint Venture payrolls:

Services

List the firms who provide the following services:

Service	Name	Contact Person	Telephone No.
Accounting			
Auditing			
Banking			
Insurance			
Legal			

Control and structure of the Joint Venture

Briefly describe the manner in which the Joint Venture is structured and controlled.

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

The undersigned warrants that he/she is duly authorised to sign this Joint Venture disclosure form and affirms that the foregoing statements are correct and include all the material information necessary to identify and explain the terms and operations of the Joint Venture and the intended participation of each partner in the undertaking.

The undersigned further covenants and agrees to provide the Employer with complete and accurate information regarding actual joint venture work and the payment therefore, and any proposed changes in any provisions of the Joint Venture Agreement, and to permit the audit and examination of the books, records and files of the Joint Venture, or those of each partner relevant to the Joint Venture, by duly authorized representatives of the Employer.

Duly authorized to sign on behalf of:

..... (the Joint Venture)

Signature: Print Name:

Name:

Address:

.....

Telephone:

Date:

Duly authorized to sign on behalf of:

..... (Partner No. 1)

Signature: Print Name:

Name:

Address:

.....

Telephone:

Date:

Duly authorized to sign on behalf of:

..... **(Partner No. 2)**

Signature:

Print Name:

Name:

Address:

.....

Telephone:

Date:

Duly authorized to sign on behalf of:

..... **(Partner No. 3)**

Signature: Print Name:

Name:

Address:

.....

Telephone:

Date:

C.

COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

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

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

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

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

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

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*insert separate page if necessary

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

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I / we are not associated, linked or involved with any other Tendering entities submitting Tender offers and have no other relationship with any of the Tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed		Date	
Name		Position	
Enterprise name			

D.

RECORD OF ADDENDA TO TENDER DOCUMENTS

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

No.	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Attach additional pages if more space is required.

Signed		Date	
Name		Position	
Tenderer			

E. PROPOSED AMENDMENTS AND QUALIFICATIONS

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

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal	
Signed		Date	
Name		Position	
Tenderer			

FORM OF INTENT TO PROVIDE A DEMAND GUARANTEE

If my/our Tender is accepted, I/we will, when required and within the time stipulated, provide a guarantee of

Insurance Company (name)

(of address)

.....

Commercial Bank (Name)

(Branch)

(of address)

.....

to be approved by you, the Employer, for the amount stipulated.

(*) : delete whichever is not applicable.

I/we understand that failure to produce an acceptable Demand Guarantee within the stipulated period is a fundamental breach of Contract, entitling the Employer to:

withhold all payments which may be due to the Contractor pending compliance with the stipulated requirements to produce an acceptable Demand Guarantee.

instruct the Contractor to cease all work pending provision of the Demand Guarantee, and

cancel the Contract.

Signed	.....	Date	.....
Print Name	.....	Position	.....
Tenderer	.....	

SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following Subcontractors for work in this contract. If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

We confirm that all Subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

No	Name and address of proposed Subcontractor	Nature and extent of work	Previous experience with Subcontractor.
1.			
2.			
3.			
4.			
5.			
Signed		Date	
Name		Position	
Tenderer			

F. SCHEDULE OF AVAILABLE INFRASTRUCTURE, RESOURCES AND EXPERIENCE

Tenderer's List of Third Party Design Employer's Agents

In the event that the Tenderer desires to design all or part of the Works or submit any alternative, he/she shall list here-following, the Design Employer's Agents, accomplished in the specific field of practice, which he/she proposes to employ for the purpose of third party certification of all works designed by the Tenderer for the Works.

Notes:(i) All costs of third party designs shall be borne solely by the Tenderer.

This Schedule must be accurately completed. Phrases such as "to be advised" will not be accepted.

Section of Works	Name and Address of Registered Engineer				ECSA Registration No.

Tenderer's Personnel Profile

Key Staff Permanently employed, of foreman level and above	Number of staff
Sub-Total	
Other Permanent Staff	Number of staff
Sub-Total	
Temporary Staff	Number of staff
Sub-Total	

List the Firms who provide the following services:

Service	Name	Contact Person	Telephone
Accounting			
Auditing			
Insurance			
Legal			

Identify any amounts of money loaned to your enterprise, indicating the loan source, date and amount

Loan Source	Address	Date of Loan	Loan Amount

List a maximum of five contract which your enterprise is engaged in and has not yet completed

Contract Description	Location	Client	Contract Amount	Expected Completion (month & year)

List the four largest assignments completed by your enterprise in the last three years

Nature of Work Performed	Client	Consultant Contact Person	Telephone No.	Contract Amount

7. **Address of workshop facilities from where maintenance of works will be undertaken**

.....

Address of Branch Offices in the RSA

.....

Address of Nearest Representative to Polokwane

.....

.....

10. Has work previously been performed for the Employer? YES/NO* - Specify

.....

11. Tenderer's Financial Ability to execute and complete the Works

Provide the estimated cash flow on the project in terms of submissions of payment certificates or payment schedules of the Employer

NOTES APPLICABLE:

Value added tax to be included in all amounts

Assume for the purpose of this estimate, payment of certificates within 30 days after receipt by the Employer.

In calculation of the last column,

$$\begin{array}{ll}
 j = d & m = l + g \\
 k = j + e & n = m + h \\
 l = k + f & \text{etc.}
 \end{array}$$

Failure to detail the required information, shall automatically signify that the Tenderer lacks the infrastructure and resources necessary to execute and complete the Works

Month No. in Contract Period	Estimated amount in Rands (VAT included)			
	a Received	b Payments made	a-b Net cash flow	Cumulative cash flow
1	-		d	j
2			e	k
3			f	l
4			g	m
5			h	n
6			etc.	etc.
7				
8				
9				
10				
11				
12				
Maximum negative cash flow. Take the largest negative number in the last column and write in here →→→ →→ →				
Signed	Date	.....
Print Name	Position	.....
Tenderer			

G.**FINANCIAL INFORMATION OF TENDERER**

This information sheet has to be filled in by the financier of the Tenderer, duly signed and stamped on behalf of the financial institution he represents.

Tenderer Details

Tender Description :

Contract Period :

Name of Tenderer :

Bank Account Number :

Tendered Amount :

Demand Guarantee will be provided by this Bank: YES NO

If yes, state amount of Demand Guarantee: R.....

Financial Institution

Name of Commercial Bank :

Branch :

Name of Bank Manager :

Telephone Number :

I / We acting on behalf of the above Commercial Bank confirm that

..... (Tenderer)

has operated an account with us for the last years.

We have been requested to provide a bank rating based in relation to the financial capability of the Tenderer, taking into account directives set out in the following two tables.

Financial Capability	
Maximum value of contract that the Tenderer is considered capable of	Value on which Bank Rating must be used
up to R650 000	-
R2 000 000	R100 000
R4 000 000	R200 000
R6 500 000	R650 000
R13 000 000	R1 300 000
R40 000 000	R4 400 000
R130 000 000	R13 000 000
No Limit	R40 000 000

BANK RATING	
Bank Code	Description of Bank Code
A	Undoubted for the amount of enquiry
B	Good for the amount of enquiry
C	Good for the amount quoted if strictly in the way of business
D	Fair trade risk for amount of enquiry
E	Figures considered too high
F	Financial position unknown
G	Occasional dishonours
H	Frequent dishonours

The value on which our Bank Rating of the Tenderer is based is R.....

(In words only)

The Bank Rating is code:

ANNEXURE: B**H. CERTIFICATE FOR MUNICIPAL SERVICES AND PAYMENTS**

TO: MUNICIPAL MANAGER, POLOKWANE MUNICIPALITY

FROM: _____ (Name of Tenderer)

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

Directors/share holders/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 of ID document(s)

Signatory

Date**Witnesses**

1. _____

Full Names

Signature

Date

2. _____

Full Names

Signature

Date

I. **AUTHORISATION FOR DEDUCTION OF OUTSTANDING AMOUNTS OWED TO COUNCIL**

TO: MUNICIPAL MANAGER, POLOKWANE MUNICIPALITY

FROM: _____ (Name of the Tenderer 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 Tenderer/Contractor

Signatory

Date

Witnesses

1. _____
Full Names

Signature

Date

2. _____
Full Names

Signature

Date

J. DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

This Municipal Tendering Document must form part of all Tenders invited.

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 to combat the abuse of the supply chain management system.

The of any Tenderer may be rejected if the Tenderer, or any of its directors have:

Abused the Municipality's Supply Chain Management System or committed any improper conduct in relation to such system:

Been convicted for fraud or corruption during the past five years:

Wilfully neglected, reneged or failed to comply with any government, municipal or public sector contract during the past five years; or

Been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corruption Activities Act (No 12 of 2004).

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

ITEM	QUESTION	YES	NO
4.1	Is the Tenderer or any of its directors listed on the National Treasury's database as a company or person prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the audit alteram partem rule was applied).		
4.1.1	If so, furnish particulars:		
4.2	Is the Tenderer or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corruption Activities Act (No 12 of 2004)? (To access this Register, enter the National Treasury's website www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012 326 5445).		
4.2.1	If so, furnish particulars:		
4.3	Was the Tenderer 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?		
4.3.1	If so, furnish particulars:		
4.4	Does the Tenderer or any of its directors owe any municipal rates and taxes or municipal charges to the municipality/municipal entity, or any other municipality/municipal entity, that is in arrears for more than three months?		
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the Tenderer 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?		
4.5.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

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

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

Signature

Date

Position

Name of Tenderer

K. DECLARATION OF INTEREST

No Tender will be accepted from persons in the service of the State*.

Any person, having a kinship with persons in the service of the State, including a blood relationship, may make an offer/s in terms of this invitation to Tender. In view of possible allegations of favouritism, should the resulting Tender, or part thereof, be awarded to persons connected with or related to persons in service of the State, it is required that the Tenderer or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

Full Name: _____

Identity No: _____

Company Registration No: _____

Tax Reference No: _____

VAT Registration No: _____

Are you at present in the service of the State? **Yes/No**

If so, furnish particulars

Municipal Supply Chain Management Regulation: "In the service of the State" means to be –

A member of –

Any Municipal council;

Any Provincial legislature; or

The National Assembly or National Council of Provinces

A member of board of directors of any municipal entity;

An official of any municipality or municipal entity;

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);

A member of Parliament or provincial legislature.

A member of the accounting authority of any national or provincial public entity; or

An employee of Parliament or a provincial legislature

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

If so, furnish particulars.

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

If so, furnish particulars.

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

If so, furnish particulars?

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

If so, furnish particulars.

Are any spouses, child or parent of the company's directors, managers, principle shareholders or stakeholders in service of the State? **YES/NO**

If so, furnish particulars?

CERTIFICATION

**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 Tenderer

This document must be signed and submitted together with your Tender

L. 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:

- Any single contract with imported content exceeding US\$10 million or
- 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
- 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
- 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

REQUIREMENTS OF THE DEPARTMENT OF TRADE AND INDUSTRY

2.1 In order to ensure effective implementation of the programme, successful Tenderers (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.

TENDER SUBMISSIONS AND CONTRACT REPORTING REQUIREMENTS OF TENDERERS AND SUCCESSFUL TENDERERS (CONTRACTORS)

3.1 Tenderers are required to sign and submit this Standard Tendering Document (SBD 5) together with the Tender 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 Tenderers (contractors) are required, immediately after being officially notified about any successful Tender with a value in excess of R10 million (ten million Rands), to contact and furnish the **DTI with the following information:**

- Tender / 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@thedi.gov.za for further details about the programme.

4 PROCESSES TO SATISFY THE NIP OBLIGATION

4.1 Once the successful Tenderer (contractor) has made contact with and furnished the DTI with the information required, the following steps will be followed:

- the contractor and the DTI will determine the NIP obligation;
- the contractor and the DTI will sign the NIP obligation agreement;
- the contractor will submit a performance guarantee to the DTI;
- 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;

- the contractor will implement the business plans; and
- 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 Tenderer (contractor) and, therefore, does not involve the purchasing institution

Tender number Closing date:.....

Name of Tenderer.....

Postal address

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

Date.....

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

For all procurement expected to exceed R10 million (all applicable taxes included), Tenderers 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.

.....

.....

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 Tenderer 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 Tenderer

N. DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT

This Municipal Tendering Document (MBD) must form part of all Tenders 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, Tenderers 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.

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 Tenders local production and content is of critical importance, such Tenders must be advertised with the specific Tendering 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 Tendering 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 Tenders referred to in paragraphs 1.2 and 1.3 above, a two stage Tendering 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 Tender price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 201x as follows:

$$LC = \frac{x}{y} \times 100$$

Where

x=imported content

Y=Tender 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 Tender as required in paragraph 4.1 below.

- 1.7. A Tender will be disqualified if:

The Tenderer 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 Tender documentation.

Definitions

- 2.1. **"Tender"** includes advertised competitive Tenders, written price quotations or proposals;
- 2.2. **"Tender price"** price offered by the Tenderer, excluding value added tax (VAT);
- 2.3. **"contract"** means the agreement that results from the acceptance of a Tender 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 Tender 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 Tender 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.

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

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
_____	_____ %
_____	_____ %
_____	_____ %

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 Tender 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 Tender.

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	Rate of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Tenderers 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 TENDER 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 Tenderer.

I, the undersigned, (full names),

do hereby declare, in my capacity as

of(name of Tenderer entity), the following:

The facts contained herein are within my own personal knowledge.

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

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:

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

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.

I understand that the awarding of the Tender 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 (PPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

O.

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

This Municipal Tendering Document (MBD) must form part of all Tenders¹ invited.

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 Tendering (or Tender rigging).² Collusive Tendering is a *per se* prohibition meaning that it cannot be justified under any grounds.

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:

- take all reasonable steps to prevent such abuse;
- reject the Tender of any Tenderer if that Tenderer 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
- cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the Tendering process or the execution of the contract.

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

In order to give effect to the above, the attached Certificate of Tender Determination (MBD 9) must be completed and submitted with the Tender:

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

Tender rigging (or collusive Tendering) 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 Tendering process. Tender rigging is, therefore, an agreement between competitors not to compete.

S. CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Tender:

(Tender Number and Description)

in response to the invitation for the Tender 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 Tenderer)

I have read and I understand the contents of this Certificate;

I understand that the accompanying Tender will be disqualified if this Certificate is found not to be true and complete in every respect;

I am authorized by the Tenderer to sign this Certificate, and to submit the accompanying Tender, on behalf of the Tenderer;

Each person whose signature appears on the accompanying Tender has been authorized by the Tenderer to determine the terms of, and to sign, the Tender, on behalf of the Tenderer;

For the purposes of this Certificate and the accompanying Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:

- has been requested to submit a Tender in response to this Tender invitation;
- could potentially submit a Tender in response to this Tender invitation, based on their qualifications, abilities or experience; and
- provides the same goods and services as the Tenderer and/or is in the same line of business as the Tenderer

The Tenderer has arrived at the accompanying Tender 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 Tendering.

In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:

- prices;

- geographical area where product or service will be rendered (market allocation)
- methods, factors or formulas used to calculate prices;
- the intention or decision to submit or not to submit, a Tender;
- the submission of a Tender which does not meet the specifications and conditions of the Tender; or
- Tendering with the intention not to win the Tender.

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 Tender invitation relates.

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

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.

I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to Tenders and contracts, Tenders 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 Tenderer

P. COMPLIANCE WITH OHSA (ACT 85 OF 1993)

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

1. Is the Contractor familiar with the OHSA (ACT 85 of 1993) and its Regulations?	YES	/	NO
2. Who will prepare the Contractor's Health and Safety Plan? (Provide a copy of the person/s curriculum vitae/s or company profile).	YES	/	NO
3. Does the Contractor have a health and safety policy? (If yes, provide a copy). How is this policy communicated to all employees?	YES	/	NO
4. Does the Contractor keep records of safety aspects of each construction site? If yes, what records are kept?	YES	/	NO
5. Does the Contractor conduct monthly safety meetings? If yes, who is the chairperson of the meeting, and who attend these meetings?	YES	/	NO
6. Does the Contractor have a safety officer in his employment, responsible for the overall safety of his company? If yes, please explain his duties and provide a copy of his CV.	YES	/	NO
7. Does the Contractor have trained first aid employees? If yes, indicate, who.	YES	/	NO
8. Does the Contractor have a safety induction-training programme in place? (If yes, provide a copy)	YES	/	NO

Signature of Tenderer: **Date:**

ORIGINAL BANK RATING LETTER

Attached the Bank Rating to this Page

R, DAY WORK SCHEDULE

This Day work Schedule shall be used for the valuation of any additional or substituted work which cannot conveniently be valued at the rates and prices submitted in the schedule of quantities.

In respect of labour and materials used in the additional or substituted work not covered in the Day work Schedule the Contractor shall be paid the actual cost plus the percentage allowance stated in the schedule of quantities.

The Tenderer shall quote hereunder rates which shall apply for payment purposes if the Employer's Agent orders additional or substituted work to be carried out on a day work basis and shall therefore be in accordance with the requirements of clause 37(2) of the General Conditions of Contract.

LABOUR AND MATERIALS

Rates and prices entered in the schedule shall be held to allow for net cost of labour and materials delivered to site respectively with the percentage allowances stated in the schedule of quantities.

PLANT AND EQUIPMENT

The Tenderers shall list all major items of plant and equipment to be used on the works and which may be required for use on day works. The proposed hire rates of these items shall be entered against each type of machine, such rates to include for all relevant costs of plant hire inclusive of fuels and lubricants but exclusive of labour charges for the operators, which will be paid for under sub-clause (1) above.

The rates for plant items not listed in the schedule will be the ruling plant hire rates, inclusive of fuels and lubricants but exclusive of labour charges for the operators, inclusive of a 7,5% handling charge. It is therefore in the Tenderers interest to ensure that the list is complete.

Should there be insufficient space on the pages provided; the Tenderer shall add further pages as required.

THE RATES FOR THE PLANT AND EQUIPMENT MENTIONED IN THE SCHEDULE SHALL BE FILLED IN FOR THE ITEMS REQUESTED. SHOULD AN ITEM BE OMITTED IT SHALL BE DEEMED TO HAVE BEEN INCLUDED IN THE OTHER DAYWORKS RATES.

LABOUR

DESIGNATION		RATE	
		R	C
Brick Layers	per hour		
Pipe Layers	per hour		
Plant Operators	per hour		
Truck Drivers	per hour		
Labour - unskilled	per hour		
- semi-skilled	per hour		
- skilled	per hour		

MATERIALS

DESIGNATION		RATE	
		R	C
Cement	per 50 kg pocket delivered		
Concrete Sand	per m ³ delivered		
Concrete Aggregate	per m ³ delivered		

II. TRANSPORT

DESIGNATION	RATE	
	R	C
Per cubic metre kilometre		

PLANT AND EQUIPMENT

ITEM	DESCRIPTION	NON-WORKING RATE*		OPERATING RATE		PER UNIT
		R	C	R	C	
LDV						
Grader (140G or equivalent)						
Tipper Truck (6 – 10m ³)						
Roller/Compactor (Smooth minimum 10 tons)						
Water Tanker						
Excavator (20-ton minimum)						
TLB (4X4)						
Flatbed truck						

*Only applicable on authority of the Employer's Agent.

POLOKWANE MUNICIPALITY

PART C1: AGREEMENTS AND CONTRACT DATA

C1.1: FORM OF OFFER AND ACCEPTANCE

C1.2: DEMAND GUARANTEE AND RETENTION MONEY GUARANTEE

C1.3: CONTRACT DATA

**C1.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL
HEALTH AND SAFETY ACT No 85 OF 1993**

C1.5: AGREEMENT WITH ADJUDICATOR

POLOKWANE MUNICIPALITY

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2

C1.1 Form of Offer and Acceptance

Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of construction works viz.:

Project Description:

Contract No. _____

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

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

The offered total of the prices inclusive of value-added-tax is

..... (Amount in words); R..... (Amount in figures)

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

Signature(s)

Print Name(s)

Capacity

For the Tenderer

.....
(Name and address of organization)

Signature of witness..... Date:

Print Name

Important Note

This page to be duly completed by the Tenderer before submitting the Tender.

ACCEPTANCE

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

The terms of the contract are contained in

Part 1: Agreements and Contract Data (which include this Agreement)

Part 2: Pricing Data

Part 3: Scope of Work

Part 4: Site Information

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

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

The Tenderer shall, within 7 days of receiving a completed copy of this Agreement (including the Schedule of Deviations, if any), contact the Employer's Agent (whose details are given in the Contract Data) to arrange the delivery of any guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of the obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed copy of this original document, including the Schedule of Deviations (if any). Such date should be confirmed in a manner that can be read, copied and recorded and shall be accepted by the contracting parties as the Commencement Date. This agreement shall constitute a binding contract between the parties.

Signature(s)

Print Name(s)

Capacity

For the Employer

(Name of Organization)

.....

(Address of Organization)

Signature of witness..... Date:

Print Name

SCHEDULE OF DEVIATIONS

The extent of deviations from the Tender documents issued by the Employer before the Tender closing date is limited to those permitted in terms of the Conditions of Tender.

A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the Tender documents, and which it is agreed by the Parties becomes an obligation of the contract, shall also be recorded here.

Any change or addition to the Tender documents arising from the above agreements and recorded here shall also be incorporated into the final Contract Document.

3.1 Subject Details

3.2 Subject Details

3.3 Subject Details

By the duly authorized representatives signing this Schedule of Deviations, the Employer and the Contractor agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Contractor and the Employer in concluding this process of offer and acceptance; in witness thereof the parties hereto have caused this agreement to be executed.

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

Signed by: Signed by:

Print Name: Print Name:

Address: Address:

For and on behalf of the **Employer** in the
Presence of

Witness:

Print Name:

Date:

For and on behalf of the **Contractor** in the presence of

Witness:

Print Name:

Date:

POLOKWANE MUNICIPALITY
(Not to be completed at tender stage)

C1.3 Performance Guarantee

In accordance with clause 6.2.1 of General Conditions of Contract, 3rd Edition 2015 Contract

No: -----

Description of Contract: -----

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means: -----

----- (Please put name of firm)

Please address: -----

Postal address: -----

Tel:-----

Fax: -----

“Employer” means: **POLOKWANE MUNICIPALITY**.

“Contractor” means: -----

----- (Please put name of firm)

“Guarantee sum” means: 10% of the contract amount

“Employer’s Agent” means: The Employer’s Agent as defined in the Tender Data

“Works” means: Permanent works together with temporary works

“Site” means: The land and other places, made available by the Employer for the purpose of the contract, on or under or in or through which the works are to be executed or carried out.

“Contractor” means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contractor as may be agreed in writing between the parties.

“Contract Sum” means: The accepted amount inclusive for tax of R----- Amount in words: -----

----- “Expiry

“Date” This Guarantee shall expire upon the issue of the **Completion Certificate** issued by Polokwane Municipality signed by the Director of Engineering Services, as such date is advised to the Guarantor in writing confirmed by the Employer.

CONTRACT DETAILS

Employer’s Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Work as defined in the Contract.

PERFORMANCE GUARANTEE

The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

"Expiry Date" This Guarantee shall expire upon the issue of the final completion certificate issued by Polokwane Municipality signed by the Director of Engineering Services, as such date is advised to the Guarantor in writing confirmed by the Employer

The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on the Certificate of the works has been issued.

The Guarantor hereby acknowledges that:

- 3.1. Any reference in this performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a surety ship;
- 3.2 . Its obligation under this Performance Guarantee is restricted to the payment of money.

Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

- 4.1. A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent and/ or Employer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
- 4.2. A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address and / or postal address with a copy to the Contractor stating that period of seven (7) days has elapsed since the first written demand terms of 4.1 and the sum certificate has still not been paid;
- 4.3. A copy of the aforesaid payment certificate which entails the Employer to receive payment in terms of the Contract sum in 4.

Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address and/ or postal address calling up this Performance Guarantee, such demand stating that:

- 5.1. The contractor has been terminated due to the Contractor's default and this performance Guarantee is called up in terms of 5; or
- 5.2. A provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
- 5.3. The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional /final sequestration and/or the provisional liquidation court order.

It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the guarantor.

Payment by Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.

The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from his Performance Guarantee on account alleged to be prejudicial to the Guarantor.

The Guarantor chooses the physical address and postal address as stated above for the service of all notices for all purposes in connection herewith.

This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after on claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Court Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Sign at -----

Date -----

Guarantor's signatory (1) -----

Capacity -----

Guarantor's signatory (2) -----

Capacity -----

Witness signatory (1) -----

Witness signatory (2) -----

RETENTION MONEY GUARANTEE
(Not to be completed at tender stage)

In accordance with clause 6.2.1 of General Conditions of Contract, 3rd Edition 2015

Contract No: -----

Description of Contract: -----

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means: -----
----- (Please put name of firm)

Please address: -----

Postal address: -----

Tel: -----

Fax: -----

“Employer” means: **POLOKWANE MUNICIPALITY**.

“Contractor” means: -----
----- (Please put name of firm)

“Guarantee sum” means: 10% of the contract amount

“**Employer’s Agent**” means: The Employer’s Agent as defined in the Tender Data

“**Works**” means: Permanent works together with temporary works

“**Site**” means: The land and other places, made available by the Employer for the purpose of the contract, on under over in or through which the works are to be executed or carried out.

“**Contractor**” means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contractor as may be agreed in writing between the parties.

“**Contract Sum**” means: The accepted amount inclusive for tax of R----- Amount in words: -----

----- “**Expiry**

“**Date**” This Guarantee shall expire upon the issue of the **Final Completion Certificate** issued by Polokwane Municipality signed by the Director of Engineering Services, as such date is advised to the Guarantor in writing confirmed by the Employer.

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Work as defined in the Contract.

RETENTION GUARANTEE

The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

"Expiry Date" This Guarantee shall expire upon the issue of the final completion certificate issued by Polokwane Municipality signed by the Director of Engineering Services, as such date is advised to the Guarantor in writing confirmed by the Employer.

The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on the Certificate of the works has been issued.

The Guarantor hereby acknowledges that:

- 3.1. Any reference in this performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a surety ship;
- 3.3 . Its obligation under this Retention Guarantee is restricted to the payment of money.
Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1. A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent and/ or Employer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2. A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address and / or postal address with a copy to the Contractor stating that period of seven (7) days has elapsed since the first written demand terms of 4.1 and the sum certificate has still not been paid;
 - 4.3. A copy of the aforesaid payment certificate which entails the Employer to receive payment in terms of the Contract sum in 4.
Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address and/ or postal address calling up this Performance Guarantee, such demand stating that:
 - 5.1. The contractor has been terminated due to the Contractor's default and this Retention Guarantee is called up in terms of 5; or
 - 5.2. A provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Retention Guarantee is called up in terms of 5; and
 - 5.3. The aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional /final sequestration and/or the provisional liquidation court order.

It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the guarantor.

Payment by Guarantor in terms of 5 will only be made against the return of the original Retention Guarantee by the Employer.

The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from his Retention Guarantee on account alleged to be prejudicial to the Guarantor.

The Guarantor chooses the physical address and postal address as stated above for the service of all notices for all purposes in connection herewith.

This Retention Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after on claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

This Retention Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

Where this Retention Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Court Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the

Magistrate's Court.

Sign at -----

Date -----

Guarantor's signatory (1) -----

Capacity -----

Guarantor's signatory (2) -----

Capacity -----

Witness signatory (1) -----

Witness signatory (2) -----

POLOKWANE MUNICIPALITY

C.1.2 Contract Data

CONTENTS

C.1.2.1 Part 1: Data provided by the Employer

- C.1.2.1.1 Conditions of Contract
- C.1.2.1.2 Contract-specific Data
- C.1.2.1.2.1 Compulsory Data
- C.1.2.1.2.2 Variations to the General Conditions of Contract
- C.1.2.1.2.3 Additional clauses to the General Conditions of Contract

C.1.2.1 Part 1: Data provided by the Employer

- C.1.2.1.1 Conditions of Contract

The Conditions of Contract are:

the "General Conditions of Contract" as they appear in the commercially available publication "General Conditions of Contract for Construction Works, Third Edition, 2015", hereinafter referred to as "GCC 2015"; and

specific data as contained in this Contract Data.

Each party to the Contract shall purchase its own copy of the GCC 2015 that applies to this Contract, available from its publisher:

South African Institution of Civil Engineers (SAICE)
Private Bag X200
Halfway House
1685
South Africa

Tel +27 (0)11 805 5947

The following Notes apply:

Note 1

The GCC 2015 makes several references to the Contract Data.

Each item of data below is cross-referenced to the clause in the Conditions of Contract to which it applies. Notwithstanding anything specified to the contrary, the Contract Data shall take precedence in the interpretation of any ambiguity or inconsistency between it and the GCC 2015.

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purpose of interpretation, the priority of the documents shall be in accordance with the following order of precedence:

the Form of Offer and Acceptance.

amendments to the General Conditions of Contract within the Contract Data.

additional conditions to the General Conditions of Contract within the Contract Data.

corrigenda to the General Conditions of Contract.

the General Conditions of Contract.

the Specifications, Drawings, Schedules and other documents forming part of the Contract (in that order) contained in the Scope of Work and the Site Information.

If any ambiguity or discrepancy is found in the documents, the Employer's Agent needs to be contacted to issue any necessary clarification or instruction.

Note 2

Certain pro-forma forms and pro-forma agreements contained in the GCC 2015 have been adapted for this particular contract. Those pro-forma forms and pro-forma agreements contained in the GCC 2015 do not apply where replaced by similar pro-forma forms and pro-forma agreements in this document.

C.1.2.1.2 Contract-specific Data

The following contract-specific data, referring to the General Conditions of Contract, are applicable to this Contract: The Condition of Contract are the General Conditions of Contract for Construction Works (2015) published by the South African Institution of Civil Engineering (SAICE).

C.1.2.1.2.1 Compulsory Data

Clause	Data
1.1.1.13	The Defects Liability Period is 12 months
1.1.1.14	The time for achieving practical completion is 12 months from the Commencement date
1.1.1.15	The name of the Employer is Polokwane Municipality
1.1.1.26	The Pricing Strategy of a Re-measurement Contract shall apply
1.2.1.2	<p>The address of the Employer is:</p> <p>Physical address: Civic Centre Landros Mare Street Polokwane City</p> <p>Postal address: P O Box 111 Polokwane 0700</p> <p>e-mail address: mapula@polokwane.gov.za</p> <p>Contact numbers: Corporate: 015 023 5346 Direct: 015 023 5335</p>
1.1.1.16	The name of the Employer's Agent is: AMCE (Pty) Ltd represented by Mr. M.Gwaba

Clause	Data																																																								
1.2.1.2	<p>The address of the Employer's Agent is:</p> <p>Physical address: AMCE (Pty) Ltd 9 Neethling Street Bendor Polokwane,0699</p> <p>Postal address: AMCE (Pty) Ltd 9 Neethling Street Polokwane,0699</p> <p>e-mail address: mgwaba@amce.co.za</p> <p>Contact numbers:</p> <table> <tr> <td>Corporate:</td> <td>015 295 9914</td> </tr> <tr> <td>Cell</td> <td>082 521 1942</td> </tr> </table>	Corporate:	015 295 9914	Cell	082 521 1942																																																				
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Cell	082 521 1942																																																								
3.1.3	<p>The Employer's Agent shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following table:</p> <table border="1"> <thead> <tr> <th data-bbox="338 900 464 990">GCC Clause No</th><th data-bbox="464 900 869 990">Description</th><th data-bbox="869 900 1131 990">Requires EWA*</th><th data-bbox="1131 900 1377 990">Delegated to ER*</th></tr> </thead> <tbody> <tr> <td data-bbox="338 990 464 1102">3.3.1</td><td data-bbox="464 990 869 1102">Employer's Agent's Representative's appointment and termination</td><td data-bbox="869 990 1131 1102">Y</td><td data-bbox="1131 990 1377 1102"></td></tr> <tr> <td data-bbox="338 1102 464 1215">3.3.4</td><td data-bbox="464 1102 869 1215">Employer's Agent's Representative acting on Employer's Agent's behalf</td><td data-bbox="869 1102 1131 1215">Y</td><td data-bbox="1131 1102 1377 1215"></td></tr> <tr> <td data-bbox="338 1215 464 1260">4.5.4</td><td data-bbox="464 1215 869 1260">Payment for notices and fees</td><td data-bbox="869 1215 1131 1260">Y</td><td data-bbox="1131 1215 1377 1260"></td></tr> <tr> <td data-bbox="338 1260 464 1304">4.7.1</td><td data-bbox="464 1260 869 1304">Fossils, etc. on Site</td><td data-bbox="869 1260 1131 1304">Y</td><td data-bbox="1131 1260 1377 1304"></td></tr> <tr> <td data-bbox="338 1304 464 1349">5.7.2</td><td data-bbox="464 1304 869 1349">Work at night</td><td data-bbox="869 1304 1131 1349">Y</td><td data-bbox="1131 1304 1377 1349"></td></tr> <tr> <td data-bbox="338 1349 464 1417">5.7.3</td><td data-bbox="464 1349 869 1417">Acceleration of rate of Progress</td><td data-bbox="869 1349 1131 1417">Y</td><td data-bbox="1131 1349 1377 1417"></td></tr> <tr> <td data-bbox="338 1417 464 1462">5.7.3</td><td data-bbox="464 1417 869 1462">Payment for acceleration</td><td data-bbox="869 1417 1131 1462">Y</td><td data-bbox="1131 1417 1377 1462"></td></tr> <tr> <td data-bbox="338 1462 464 1529">5.9.1</td><td data-bbox="464 1462 869 1529">Instructions and drawings on Commencement Date</td><td data-bbox="869 1462 1131 1529"></td><td data-bbox="1131 1462 1377 1529">Y</td></tr> <tr> <td data-bbox="338 1529 464 1574">5.11.1</td><td data-bbox="464 1529 869 1574">Suspension of the Works</td><td data-bbox="869 1529 1131 1574"></td><td data-bbox="1131 1529 1377 1574">Y</td></tr> <tr> <td data-bbox="338 1574 464 1641">5.11.3</td><td data-bbox="464 1574 869 1641">Proceeding with Works after suspension</td><td data-bbox="869 1574 1131 1641">Y</td><td data-bbox="1131 1574 1377 1641"></td></tr> <tr> <td data-bbox="338 1641 464 1709">5.12.4</td><td data-bbox="464 1641 869 1709">Acceleration instead of extension of time</td><td data-bbox="869 1641 1131 1709">Y</td><td data-bbox="1131 1641 1377 1709"></td></tr> <tr> <td data-bbox="338 1709 464 1754">5.13.2</td><td data-bbox="464 1709 869 1754">Reduction in penalty</td><td data-bbox="869 1709 1131 1754"></td><td data-bbox="1131 1709 1377 1754">Y</td></tr> <tr> <td data-bbox="338 1754 464 1799">6.3.1</td><td data-bbox="464 1754 869 1799">Variation orders</td><td data-bbox="869 1754 1131 1799">Y</td><td data-bbox="1131 1754 1377 1799"></td></tr> </tbody> </table>	GCC Clause No	Description	Requires EWA*	Delegated to ER*	3.3.1	Employer's Agent's Representative's appointment and termination	Y		3.3.4	Employer's Agent's Representative acting on Employer's Agent's behalf	Y		4.5.4	Payment for notices and fees	Y		4.7.1	Fossils, etc. on Site	Y		5.7.2	Work at night	Y		5.7.3	Acceleration of rate of Progress	Y		5.7.3	Payment for acceleration	Y		5.9.1	Instructions and drawings on Commencement Date		Y	5.11.1	Suspension of the Works		Y	5.11.3	Proceeding with Works after suspension	Y		5.12.4	Acceleration instead of extension of time	Y		5.13.2	Reduction in penalty		Y	6.3.1	Variation orders	Y	
GCC Clause No	Description	Requires EWA*	Delegated to ER*																																																						
3.3.1	Employer's Agent's Representative's appointment and termination	Y																																																							
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5.13.2	Reduction in penalty		Y																																																						
6.3.1	Variation orders	Y																																																							

Clause	Data			
	GCC Clause No	Description	Requires EWA*	Delegated to ER*
6.3.2.1	Confirmation of a Variation Order	Y		
6.4.1.4	Day-works as a Variation Order	Y		
6.5.2	Materials for day-works	Y		
6.8.4	Costs due to changes in legislation	Y		
6.11.1	Variations exceeding 15%			Y
8.2.2.2	Damage due to excepted risks			Y
10.1.5	Consultation on Contractor's claim	Y		Y
10.1.5	Ruling on Contractor's claim	Y		N
<p>*The following abbreviations apply:</p> <p>ER Employer's Agent's Representative EWA Employer's Agent's Written Action N No NA Not Applicable Y Yes</p>				
3.2.4	Do NOT Delete this clause.			
4.9.1	<p>The Contractor shall deliver to the Employer's Agent, on a monthly basis, a detailed inventory of Construction Equipment kept on Site, full particulars given for each day of the month. Distinction shall be made between Owned Equipment and Hired Equipment as well as Equipment in working order and Equipment out of order. Such inventory shall be submitted by the seventh day of the month following the month to be reported.</p>			
4.10.2	<p>The Contractor shall deliver to the Employer's Agent, on a monthly basis, a return in detail of supervisory staff and the number of categorized classes of labour employed each day for the said period by the Contractor for execution of the Contract. Such return shall be submitted by the seventh day of the month following the month to be reported. (EPWP Forms to be submitted on a monthly basis)</p>			

5.3.1	<p>The documentation required before commencement with Works execution are:</p> <ul style="list-style-type: none"> • Health and Safety Plan (Refer to Clause 4.3). The Health and Safety Plan must incorporate the latest COVID-19 regulations as published by the South African government at the time of awarding of the contract. • A signed Agreement between the Employer and the Contractor for the Works to be completed by the Contractor in terms of the provisions of Section 37(2) of the Occupational • Health and Safety Act (Act No.85 of 1993) and the Construction Regulations promulgated thereunder (Refer to Clause 4.3). • Proof of payment to the Employer, that the Contractor has paid all contributions required in terms of the Compensation for Occupational Injuries and Diseases Act, No 130 of 1993 Refer to Clause 4.3). • Initial programme (Refer to Clause 5.6). The programme must be; <ul style="list-style-type: none"> ○ be in accordance with the phasing of the construction as agreed with the Client; ○ be in the form of a bar chart; ○ clearly indicate the start and end dates and duration of all construction and identify the critical path ○ take full cognisance of all Contractor's risks and obligations in terms of the contract • Security (Refer to Clause 6.2). • Insurance (Refer to Clause 8.6).
5.3.2	The time to submit the documentation required before commencement with Works execution is 14 Days .
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but shall be as set out elsewhere in the Contract.

Clause	Data
5.8.1	<p>The non-working Days are Sundays.</p> <p>The special non-working Days are:</p> <p>Statutory public holidays; and</p> <p>All annual year-end shutdown periods as recommended by the South African Federation of Civil Engineering Contractors (SAFCEC), and which commence after the Commencement Date and which commence before the Due Completion Date.</p>
5.13.1	<p>The penalty for failing to complete the Works is 0.1 percent of contract price per calendar day</p>
5.16.3	<p>The latent defect period is 10 years, commencing on the Day after the date of certification of Practical Completion.</p>
6.8.2	<p>The value of the payment certificate issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:</p> <p>The value of "X" is 0.1</p> <p>The values of the co-efficient are:</p> <p>a = 0.25 b = 0.15 c = 0.55 d = 0.05</p> <p>CPA: is applicable if the estimate project value is more than R10 000 000 or a contract period of more than 6 months.</p> <p>"L" is the "Labour Index" and shall be the "Consumer Price Index" for the urban area nearest to the Site as specified by the Engineer in the Appendix to the Tender and as published in the Statistical News Release, P0141, Table 7.1 (previously P0141.1 Table 21) of Statistics South Africa.</p> <p>"P" is the "Plant Index" and shall be the "Civil Engineering Plant Index" as published in the Statistical News Release P0142.1, Table 12 (previously P0142.1 Table 16) of Statistics South Africa.</p> <p>"M" is the "Material Index" and shall be the "Civil Engineering Material index" as published in the Statistical News Released P0142.1, Table 11 (previously P0142.1 Table 15) of Statistics South Africa.</p> <p>"F" is the "Fuel Index" and shall be the "Diesel at wholesale level – Coast/Witwatersrand index" as published in the Statistical News Released P0142.1, Table 12 (previously P0142.1 Table 16) of Statistics South Africa.</p> <p>The suffix "o" denotes the basic indices applicable to the base month, which shall be the month prior to the month in which the closing date for the tender falls.</p> <p>The suffix "t" denotes the basic indices applicable to the base month, which the last day of the period falls to which the relevant payment certificate relates.</p> <p>If any index relevant to any particular certificate is not known at the time when the certificate is prepared, the Engineer shall estimate the value of such index. Any correction, which may be necessary when the correct indices becomes known, shall be made by the Engineer in subsequent payment certificates.</p> <p>The base month is <i>the month prior to the month in which the closing date of the tender falls</i></p>

6.5.1.2.3	The percentage allowance to cover overhead charges is: 50 per cent for labour; and 15 per cent for materials.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership is required.
6.10.3	The limit of retention money is 10% of the value of the Contract Price. A Retention Money Guarantee is compulsory. A penalty will be applied for non-delivery of the Retention Money Guarantee as required. The penalty will be 10% of the value of the completion Retention Money Amount per calendar month for late delivery of the said Retention Money Guarantee.
8.6.1.1.2	The value of Plant and materials supplied by the Employer to be included in the insurance sum is nil.
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is a maximum of 0% (nil percent) of the Contract Sum.
8.6.1.3	The limit of indemnity for liability insurance is equal to the contract amount.
10.5.1	Dispute resolution shall be by ad-hoc adjudication, use GCC 2015, Appendix 5.
10.7.1	The determination of disputes shall be by arbitration.

C.1.2.1.2.2 Variations to the General Conditions of Contract

Clause	Data
2.5.1	<p>Cession</p> <p><i>Amend Clause 2.5.1 as follows:</i></p> <p><i>Delete the words “without the written consent of the other”</i></p>
5.14.5.1	<p>Consequences of Completion</p> <p><i>Amend Clause 5.14.5.1 as follows:</i></p> <p><i>In the second line, substitute the word ‘Guarantor’ with ‘Contractor’.</i></p>

Clause	Data
6.2	<p>Security</p> <p><i>Replace Sub-Clauses 6.2.1 and 6.2.2 with:</i></p> <p>“The Contractor shall deliver to the Employer within such time as may be stated in the Contract Data, a Demand Guarantee, of an Insurance Company registered in terms of the Short-term Insurance Act (Act 53 of 1998) or of a registered Commercial Bank, in a sum equal to the amount stated in the Contract Data. The Demand Guarantee shall be issued by an entity subject to the approval of the Employer, and shall conform in all respects to the format contained in the Contract Data.</p> <p>The security to be provided by the Contractor shall be a Demand Guarantee of 10% of the Contract Sum.</p> <p>Wherever a joint venture constitutes the contracting party, the Demand Guarantee shall be issued on behalf of the joint venture.</p> <p>Failure to produce an acceptable Demand Guarantee within the period stated in the Contract Data, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 with specific reference to Sub-clause 9.2.2 as amended in the Contract Data.”</p>
6.3.1	<p>Variations</p> <p><i>Amend Clause 6.3.1, as follows:</i></p> <p><i>In the first paragraph, third line, after the words "or for any reason appropriate", add the Phrase</i> ", including the limiting of contract expenditure so as not to exceed the Employer's budgeted project funding,"</p> <p><i>Add the following phrase to the last paragraph of Clause 6.3.1.6, after the words "ascertaining the amount of the Contract Price":</i></p> <p>", and no such variation shall give reason for consideration of any claim in terms of Clause 6.11."</p>
6.3.2	<p>Orders for Variations to be in writing</p> <p>Omit the words “Provided that” under Clause 6.3.2 and omit Clause 6.3.2.1.</p>

Clause	Data
6.8.1	CPA of 2% is applicable on this contract
6.8.3	Special materials for this contract are emulsion and asphalt and adjustment for variations is applicable
6.9.2	<p>Definition of “materials”</p> <p><i>Amend Clause 6.9.2, as follows:</i></p> <p><i>Substitute the word ‘plant’ with ‘Plant’.</i></p>
6.10.6	<p>Set-off and delayed payments</p> <p><i>Amend Clause 6.10.6.2 as follows:</i></p> <p><i>Delete the words ‘Contractor’s Bank’ and substitute with the words ‘Employer’s Bank’</i></p>
6.11	<p>Variations exceeding 15 per cent</p> <p><i>Replace the marginal heading with:</i></p> <p>“Variations exceeding 20 per cent”</p> <p><i>Replace “15 per cent” with “20 per cent” in the text of this Sub-Clause</i></p>
7.8.2	<p>Cost of making good of defects</p> <p><i>Amend Clause 7.8.2.1 as follows:</i></p> <p><i>In the first line, correct the spelling of ‘therefore’.</i></p>
8.3.1	<p>Excepted risks</p> <p><i>Amend Clause 8.3.1.12 as follows:</i></p> <p><i>In the second line, delete the words ‘Employer or any of their’ and substitute with ‘or any of its’.</i></p>
8.6.6	<p>Contractor to produce proof of payment</p> <p>“The Contractor shall before commencement of the Works produce to the Employer’s Agent:</p>
	<p>8.6.6.1 The policies by which the insurances are effected,</p> <p>8.6.6.2 Proof that due payment of all premiums there under, covering the full required</p>
	<p>period has been made, and</p> <p>8.6.6.3 Proof of continuity of the policies for the required period.</p>

Clause	Data
	<p>Should, during the currency of the Contract, the required period of insurance be extended for any reason, the Contractor shall timeously extend (so as to maintain) the said insurances for the full extended duration.</p> <p>The Employer's Agent shall be empowered to withhold all payment certificates until the Contractor has complied with his obligations in terms of this Clause 8.6.6."</p>
8.6.7	<p>Remedy on Contractor's failure to insure</p> <p><i>Delete sub-clause 8.6.7 and substitute with:</i></p> <p>"Failure on the part of the Contractor to effect and keep in force any of the insurances referred to in Clause 8.6.1 and its sub-clauses, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 and with specific reference to sub-clause 9.2.2, as amended in the Contract Data."</p>
9.1.2	<p>State of emergency</p> <p><i>In the fourth line, delete the words 'supply of' and substitute with 'availability of'.</i></p>
9.2	<p>Termination by Employer</p> <p><i>Delete the contents of Clause 9.2 and substitute with:</i></p> <p>"9.2.1 The Employer may terminate the Contract by written notice to the Contractor if:</p> <p>9.2.1.1 Sequestration of the Contractor's estate is ordered by a Court with due jurisdiction, Or</p>
	<p>9.2.1.2 The Contractor publishes a notice of surrender or presents a petition for the surrender of his estate as insolvent, or makes a compromise with his creditors, or assigns in favour of his creditors, or agrees to carry out the Contract under the supervision of a committee representing his creditors, or (being a company) goes into liquidation, whether provisionally or finally (other than a voluntary liquidation for the purpose of amalgamation or reconstruction), or if the Contractor assigns the Contract without having first obtained the Employer's consent in writing, or if execution is levied on his goods, or</p>
	<p>9.2.1.3 The Contractor, or anyone on his behalf, or in his employ, offers to any person in the employ of the Employer or the Employer's Agent, a gratuity or reward or commission, Or</p>
	<p>9.2.1.4 The Contractor furnished materially inaccurate information in his Tender, which had a bearing on the award of the Contract, or</p>
	<p>9.2.1.5 The Contractor has abandoned the Contract.</p> <p>9.2.2 If the Contractor:</p> <p>9.2.2.1 Has failed to commence the Works in terms of Clause 10 hereof, or has suspended the progress of the Works for fourteen (14) days after receiving from the Employer's Agent written notice to proceed, or</p> <p>9.2.2.2 Has failed to provide the Guarantee in terms of Clause 7 within the time stipulated in the Contract Data, or</p> <p>9.2.2.3 Has failed to proceed with the Works with due diligence, or</p> <p>9.2.2.4 Has failed to remove materials from the Site or to pull down and replace work within fourteen (14) days after receiving from the Employer's Agent written notice that the said materials or work have been condemned and rejected by the Employer's Agent in terms of these conditions, or</p>

Clause	Data
	<p>9.2.2.5 Is not executing the Works in accordance with the Contract, or is neglecting to carry out his obligations under the Contract, or</p> <p>9.2.2.6 Has, to the detriment of good workmanship or in defiance of the Employer's Agent's instructions to the contrary, sublet any part of the Contract, or</p> <p>9.2.2.7 Has assigned the Contract or any part thereof without the Employer's consent in writing, then the Employer may give the Contractor 14 days' notice to rectify the default, and if the Contractor fails to rectify the default in said 14 days, then, without further notice, notify the Contractor in writing of the termination of the Contract and expel the Contractor and order the Contractor to vacate the site within 24 hours of issue of the Notice of Termination and to hand the Site over to the Employer, and the Employer may then enter upon the Site and the Works without affecting the rights and powers conferred on the Employer or the Employer's Agent by the Contract and the Employer may himself complete the Works or may employ another contractor to complete the Works, and the Employer or such other contractor may use for such completion so much of the Construction Equipment, Temporary Works and materials brought onto the Site by the Contractor as the Employer may think proper, and the Employer may at any time sell any of the said Construction Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any sums that may be due or become due to the Employer by the Contractor under the Contract. In such circumstances the Contractor shall forthwith vacate the Site and shall not be entitled to remain on the Site on the grounds that he is entitled to do so on a right of retention until amounts due to him have been paid, neither will the Contractor be entitled to any further payments in terms of this Contract.</p>
	<p>9.2.3 If the Contractor, having been given notice to rectify a default in terms of 9.2.2 above, rectifies said default, but later repeats the same or substantially the same default, then the Employer may notify the Contractor of the immediate termination of the Contract, and proceed as stated in the paragraph following the word 'writing' in Clause 9.2.2.7 above.</p>
	<p>9.2.4 Should the amounts that the Employer must pay to complete the Works, exceed the sum that would have been payable to the Contractor on due completion by him, then the Contractor shall upon demand pay to the Employer the difference, and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly. Provided that should the Contractor on demand not pay the amount of such excess to the Employer, such sum may be determined and deducted by the Employer from any sum due to or that may become due to the Contractor under this or any previous or subsequent contract between the Contractor and the Employer."</p>

C.1.2.1.2.3 Additional clauses to the General Conditions of Contract:

Clause	Data
1.1	<p>Definitions</p> <p><i>Add the following at the end of Sub-Clause 1.1.1:</i></p>
1.1.1.35	"Client", as used in the Occupational Health and Safety Act - Construction Regulations, means Employer.
1.1.1.36	"Principal Contractor", as used in the Occupational Health and Safety Act - Construction Regulations, means Contractor.

Clause	Data
4.12	<p>Contractor's superintendence</p> <p><i>Add the following sub-clause 4.12.4 to Clause 4.12:</i></p> <p>“Where a form is included in the Contract Data for this purpose, the Tenderer shall fill in the name of the person he proposes to entrust with the post of Contractor's Construction Manager on this Contract in the space provided therefore. Previous experience of this person on work of a similar nature during the past five (5) years is to be entered on the form. The Contractor's Construction Manager shall be on Site at all times when work is being performed.</p> <p>The person shall be subject to approval of the Employer's Agent in writing and shall not be replaced or removed from Site without the written approval of the Employer's Agent.”</p>
5.6	<p>Programme</p> <p><i>Add the following sub-clause 5.6.6 to Clause 5.6:</i></p> <p>“Failure on the part of the Contractor to deliver to the Employer's Agent, the</p> <ul style="list-style-type: none"> • programme of the Works in terms of Clause 5.6.1 and • supporting documents in terms of Clause 5.6.2 <p>within the period stated in the Contract Data, shall be sufficient cause for the Employer's Agent to retain 25 percent of the value of the fixed charge and value-related items in assessment of amounts due to the Contractor, until the Contractor has submitted the aforementioned first Programme of the Works and Supporting Documents”</p>
5.9.7	<p>Employer's Agent to approve Contractor's Designs and Drawings</p> <p><i>Add the following sub-clause 5.6.6 to Clause 5.6:</i></p> <p>“All designs, calculations, drawings and operation and maintenance manuals shall be fully endorsed by a third-party registered Employer's Agent, accomplished in such specific field of practice and the cost thereof shall be borne solely by the Contractor.</p> <p>Once the alternative design has been approved, the Contractor shall indemnify and hold harmless the Employer's Agent, the Employer, their agents and assigns, against all claims howsoever arising out of the said design, whether in contract or delict”.</p>
5.11	<p>Suspension of the Works</p> <p><i>Add the following sub-clause 5.11.7 to Clause 5.11:</i></p> <p>“If the Contractor does not receive from the Employer the amount due under an Interim Payment Certificate within 28 days after expiry of the time stated in sub-clause 6.10.4 within which payment is to be made (except for deductions in accordance with sub-clauses 6.10.1.6 and 6.10.1.7), the Contractor may, after giving 14 days' notice to the Employer, suspend the progress of the Works.</p> <p>The Contractor's action shall not prejudice his entitlements to a claim in terms of Clause 10.1 and to cancellation of the Contract in terms of Clause 9.3.</p> <p>If the Contractor subsequently receives full payment of the amount due under such Interim Payment Certificate before giving a notice of cancellation of the Contract, the Contractor shall resume normal working as soon as is reasonably practicable.”</p>

Clause	Data
5.12	<p>Extension of Time for Practical Completion</p> <p><i>Add the following at the end of Sub-Clause 5.12.2.2:</i></p> <p>“The extension of time to be allowed due to abnormal rainfall shall be calculated separately for each calendar month or part thereof in accordance with the following formula:</p> $V = (Nw - Nn) + \left(\frac{Rw - Rn}{x} \right)$ <p>where</p> <p>V = Extension of time in calendar days for the calendar month under consideration</p> <p>Nw = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded</p> <p>Nn = Average number of days for the calendar month on which a rainfall of 10 mm or more has been recorded, as derived from existing rainfall records</p> <p>Rw = Actual recorded rainfall for the calendar month</p> <p>Rn = Average rainfall for the calendar month, as derived from existing rainfall records</p>

Clause	Data																																																																																																																																																																																																																																																						
	<p style="text-align: center;">X = 20</p> <p>The rainfall records which shall provisionally be accepted for calculation purposes are:</p> <p style="text-align: center;">Based on records taken at: Rainfall Station : Polokwane Years of record: 2009 – 2019</p>																																																																																																																																																																																																																																																						
<p><i>Table 1 – RAINFALL RECORDS FOR PERIOD: <u>2006 – 2016</u></i></p> <p style="text-align: center;"><i>RAINFALL STATION: Polokwane Lat: 23.8570 Lon: 29.451 Height 1226m</i></p> <p style="text-align: center;"><i>Average No of Days with Rainfall exceeding 10mm: 9.8 days/year</i></p> <p style="text-align: center;"><i>Average Rainfall: 488.6mm/year station no: 0677802BX</i></p>																																																																																																																																																																																																																																																							
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Clause	Data
	<p>The factor (Nw - Nn) shall be considered to represent a fair allowance for days during which rainfall exceeds 10 mm and the factor (Rw - Rn)/x shall be considered to represent a fair allowance for those days when rainfall does not exceed 10 mm but wet conditions prevent or disrupt work.</p> <p>The total extension of time shall be the algebraic sum of all monthly totals for the contract period, but if the algebraic sum is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for a part of a month shall be calculated using pro rata values of Nn and Rn."</p> <p>For this project the rainfall formula will only apply as background information, or dispute resolution. Extension of time for rainfall will only be granted on Actual Delays experienced; noted and agreed upon by the Employer's Agent.</p>
6.10	<p>Payments</p> <p><i>Add the following at the end of Sub-Clause 6.10.1:</i></p> <p>"The Contractor shall complete the 'Contractor's Monthly Report Schedule', which pro forma documentation is obtainable from the Employer's Agent. Pursuant to Sub-Clause (1), these, duly signed by all concerned, together with the Contractor's statement and a VAT invoice in original format are to be submitted to the Employer's Agent. Issue by the Employer's Agent to the Employer and Contractor of any signed payment certificate is conditional to this information being fully endorsed, accurately and timeously submitted to the Employer's Agent".</p> <p><i>Add the following at the end of Sub-Clause 6.10.1.5:</i></p> <p>"All documentary evidence of such materials shall be unambiguous with respect to ownership having fully passed to the Contractor on or before the date of submittal of the Contractor's monthly statement.</p> <p><u>Should the Contractor fail to supply unambiguous documentary evidence, he shall, prior to submittal of his monthly statement, deliver to the Employer a Guarantor Guarantee in the form contained in the Appendices to the Contract Data."</u></p>
9.3	<p>Termination by the Contractor</p> <p><i>Add the following at the end of Sub-Clause 9.3:</i></p> <p>9.3.5 "In addition to, or as an alternative to the rights to termination contained in this Clause 9.3, the Contractor may notify the default to the Employer, with a copy to the Employer's Agent, and if the default is not rectified within 10 days the Contractor may suspend progress of the works until a date 7 day after the default is rectified.</p> <p>The Contractor shall be entitled to extension of time to the extent of delay caused by or resulting from such suspension, and to payment of additional costs caused by or resulting from the suspension. Such extension of time and additional costs shall be promptly ascertained by the Employer's Agent, who shall then grant the extension of time and include the additional costs in all future payment certificates. Such suspension, extension of time and/or payment of additional costs, shall not prejudice the Contractor's rights to cancel the contract."</p>

C.1.2.2 Part 2: Data provided by the Contractor

The General Conditions of Contract, as specified in Part 1, shall be used as a basis for this Data which is required to be completed.

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

Clause	Data
1.1.1.9	<p>The Name of the Contractor is:</p> <p>.....</p> <p>.....</p>
1.2.1.2	<p>The address of the Contractor is:</p> <p>Physical address:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
1.2.1.2	<p>Postal address:</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>e-mail address:</p> <p>.....</p> <p>Contact numbers:</p> <p>Corporate:.....</p> <p>Direct:.....</p> <p>Mobile:.....</p> <p>Fax:.....</p>

C1.4 OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

This agreement is mandatory for all contractors appointed by the Polokwane Municipality or any other institution that do work for or on behalf of Municipality.

This agreement is between:

THE CONTRACTOR:

Herein represented by
In his capacity as Being duly authorized hereto hereinafter referred to

as "contractor".

Compensation Commissioner Number:

(Attach a copy of the Registration

Certificate to this agreement)

Company : Name:

Registration Number:

CEO : Name:

ID Number:

,
Physical Address:

And the POLOKWANE MUNICIPALITY

(Hereinafter referred to as "the Council")

1.0 DEFINITIONS

1.1 CONTRACTOR Means the "Contractor" as defined in the "Principal Contract".

Annexed hereto in his capacity as mandatory.

1.2 MANDATORY Includes an agent, contractor or subcontractor for work to be done or

service rendered, but without derogating from his status in his own right as an employer of people or user of equipment, machinery, tools or materials.

1.3 THE PRINCIPAL CONTRACT Means the contract annexed hereto as annexure "A".

1.4 COUNCIL Means the Polokwane Municipality

1.5 RISK CONTROL OFFICER A person appointed in writing by Council.

1.6 Any definitions contained in any Statute hereinafter mentioned shall have the meaning allocated to it by the specific statute.

2. OBJECTIVE

2.1 Whereas Council and the Contractor have entered into a contract for service (work) as fully indicated in the "Principle Contract" and whereas the "Contractor" agreed to indemnify Council against the risks stated hereunder whether foreseeable or not, and, whereas it is agreed between the parties that it is of cardinal importance to safeguard both Council and the Contractor's obligation in terms of relevant legislation as well as to extend the obligation as a company and/or legal person and/or person as an entity concerned with health, safety and the environment.

2.2 These rules are applicable to all contractors performing work for Council within the jurisdictional area of the Council and on any premises, which are owned, rented or developed by the Council.

2.3 The Council acts through those officials or persons who are generally or specifically charged with the responsibility, in terms of legislation, as well as any other official or person who is generally or specifically charged with the control and supervision of the project.

IT IS HEREBY AGREED AS FOLLOWS:

INDEMNITIES

3.1 The "Contractor" hereby indemnifies the "Council" against any loss in respect of all claims, proceeding, damages, costs and expenses arising out of any claim or proceeding pertaining to the non-compliance by the "Contractor" of any statutory requirements and/or requirements regarding the following Acts in particular pertaining to the provisions of:

- 3.1.1 The Occupational Health and Safety Act 85 of 1993 (as amended), including the Construction Regulations, 2003 as promulgated on 18 July 2003, in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), in Government Gazette No. 25207 and Regulation Gazette No. 7721. See Annexure B.
- 3.1.2 The Health Act 63 of 1977.
- 3.1.3 Road Traffic Act 29 of 1989 (as amended).

- 3.1.4 Environment Conservation Act 73 of 1989.
- 3.1.5 The National Water Act 36 of 1998.
- 3.1.6 The Criminal Procedure Act 51 of 1977.
- 3.1.7 The Explosives Act 26 of 1956.
- 3.1.8 The Arms and Ammunition Act 75 of 1969.
- 3.1.9 Compensation for Occupational Injuries and Diseases Act 130 of 1993.
- 3.1.10 The Labour Relations Act 66 of 1995.
- 3.1.11 The Unemployment Insurance Act 30 of 1966 (as amended).
- 3.1.12 The Basic Conditions of Employment Act 75 of 1997 (as amended).
- 3.1.13 Standards Act 29 of 1993.
- 3.1.14 any statutory provisions in any act and/or any law or bylaw of any local government and/or any published official standard incorporated into any statute or bylaw relating to the completion of the work set out in the "Principal Contract".
- 3.1.15 Any other health and safety standard prescribed by the "Council".

3.2 The "Contractor" shall ensure that he familiarizes himself with the requirements of the above legislation and that he, his employees and any subcontractor will comply with all the statutory provisions contained in them.

3.3 The "Contractor" shall indemnify the "Council" in respect of any physical loss or damage to any plant, equipment or other property belonging to the "Contractor" or for which he is responsible and he hereby indemnifies the "Council" against any loss in respect of all claims, proceedings, damages, costs and expenses consequent upon the loss of or damage to any plant, equipment or other property belonging to, or which is the responsibility of, any subcontractor, agent or employee of the subcontractor.

3.4 The "Contractor" shall and hereby indemnifies the "Council" against any liability, loss, claim or proceedings whatsoever, whether arising in common law or by statute, consequent on personal injuries to or the loss of health or death of any person whosoever arising out of or in the course of or caused by the execution of the "Principal Contract".

3.5 The "Contractor" shall and hereby indemnifies the "Council" against any liability, loss, claim or proceedings consequent on loss of or damage to any movable or immovable property arising out of or in the course of or caused by the execution of the "Principal Contract" and due to any act or omission of the "Contractor", his agents, servants or subcontractors.

PERFORMANCE SAFE WORKING PRACTICE

4.1 The "Council" requires a high standard of safe work performance from all employees and expects that the standard be maintained by the "Contractor" within the "Council's" jurisdictional area or on its premises.

4.2 Irrespective of human considerations, the maintaining of these health and safety rules shall be the execution of the prescribed legal requirements. These rules are not to hinder the "Contractor" in rendering services or indemnify the "Contractor" from any legal responsibility to ensure healthy and safe work circumstances.

4.3 The "Council" shall assist the "Contractor" in any practical considerations to accommodate the healthy and safe execution of work and therefore require co-operation in the execution of these safety rules.

5. LOCK OUT PROCEDURE

5.1 When power or air driven machines or equipment, electrical apparatus or pipelines are examined, repaired, adjusted, cleaned, lubricated or serviced in any other way than normal servicing, then all isolating switches, -levers, valves or appliances must be put in the "off" or "closed" position and locked.

5.2 Should more than one team work on a machine, then each person in control of a team, must put a separate lock on the switch, lever, valve or appliance.

6.0 CRANES, VEHICLES AND HOISTING

6.1 For each crane or hoisting equipment used, the "Contractor" must submit a valid and recent test certificate or other form of the last examination of the machine or equipment, to the "Council".

6.2.1 Only trained personnel with written permission and where determined by Law, with a valid driver's license, may be allowed to operate any electrical diesel or petrol driver overhead crane, hydraulic or electrical hoisting equipment, self-driven forklift, tractor or any other crane or vehicle. No employee of the "Contractor" may perform any overhead work or work on an overhead crane or hoisting equipment or work near cranes or crane rail, before:

An agreement was concluded with the "Council".

Approval has been obtained from the "Council" to perform the work.

All applicable danger – and warning symbolic signs are put into position, or exemption, if applied for, is in operation.

6.3 The "Contractor" shall be wholly responsible for any loss or damage to cranes, hoisting equipment, plant, machines or equipment brought onto the work site by the "Contractor"

7.0 MACHINE VALANCES, PROTECTION AND FENDING

7.1 No machine valances, protection or fending may be removed from machines, manholes, etc. without the written permission of "Council" if applicable exemption procedures were not appropriated.

8.0 SCAFFOLD, LADDERS, TOOLS AND EQUIPMENT

8.1 No equipment or appliance belonging to "Council" may be used without written permission from "Council".

8.2 Unless prior arranged, "Contractors" must bring sufficient tools and equipment to the site to finish the contract, including offices and storerooms. The mentioned equipment remains the responsibility of the "Contractor" with respect to loss, damage and theft.

8.3 In exceptional cases, where tools and equipment belonging to "Council" are used to finish the contract, the said equipment and tools are used on own risk and the "Contractor" indemnifies "Council" from any claims that may arise. The said indemnity must be in writing, as well as information regarding the loan period, identification and condition of tools and equipment. The "Contractor" is responsible for the returning of said tools and equipment in the same condition or better. The "Contractor" is responsible to "Council" for any damage or excessive wear of such tools or equipment and material.

9.0 EXCAVATIONS

- 9.1 Before any excavations commence, written permission must be obtained from "Council" to confirm the location of existing electrical cables, water pipes, etc.
- 9.2 All excavations and obstructions in floor, tar and dirt surfaces must be fenced effectively and safeguarded between sundown and sunup with a sufficient amount of red/yellow warning lights and symbolic signs.
- 9.3 The surrounding area must be kept clean, safe and tidy during excavation. Excess material may not obstruct unnecessarily.
- 9.4 If any property is in danger during excavation, it must be supported, and the proposed support work must be submitted to the Department of Labour (OHS) and "Council" for approval.
- 9.5 Written permission must be obtained from "Council" to grant admittance to restricted areas as well as areas where dangerous or poisonous gases are present.

10.0 FIRST AID

- 10.1 The "Contractor" must provide and maintain a first aid box equipped according to legal requirement where more than (5) five persons are employed. The first aid box must be in the care of a person with a competency certificate from one of the following organizations:
 - SA Red Cross Association;
 - St Johns Ambulance;
 - SA First Aid League; or
 - A person or organization approved by the Chief inspector for this purpose.
- 10.2 A visible notice must be put up on any work premises with the name of the person responsible for first aid. In an emergency "Council's" Ambulance / Fire Department or emergency services may be contacted at (015) 290 2000.

11.0 FLAMMABLE LIQUIDS

- 11.1 The "Contractor" shall be held responsible for the necessary precautionary fire prevention measures. No smoking signs must be put up where applicable. The "Contractor's" employees must be informed of "Council's" fire prevention measures and evacuation procedures.

12.0 COMPENSATION BY CONTRACTOR

- 12.1 The "Contractor" shall be held responsible for all loss of and damage to property, the death or injury of persons, the resultant loss or damage suffered as well as all law suits, claims, costs, charges, fines and expenses due to negligence, violation of statutory liability or neglect of the "Contractor" or the "Contractor's" employees.

13.0 TRANSGRESSION OF RULES AND MISBEHAVIOUR

- 13.1 The "Contractor" is warned that any act(s) leading to damage or loss of employees of the "Contractor" or the "Council" shall not be tolerated. The "Council" may (without any reason) demand that any employee of the "Contractor" be withdrawn from the principal "Contract" or site.

14.0 INCIDENT REPORTING

- 14.1 All incidents referred to in Section 24 of the Occupational Health and Safety Act and or other incidents shall be reported, by the "Contractor", to the Department of Labour, as well as to the "Council" and should such an incident take place outside normal working hours, on a Saturday, Sunday or Public holiday provided with a written report relating to any incident.
- 14.2 The "Council" will obtain an interest in the issue of any formal inquiry conducted in terms of the Occupational Health and Safety Act in any incident involving the "Contractor" and/or his employees and/or his subcontractors.
- 14.3 The "Contractor" undertakes to report to "Council" anything deemed to be unhealthy and/or unsafe and that he undertakes to verse his employees and/or subcontractors in this regard.

15.0 LIAISON AND SUPERVISION

- 15.1 The "Contractor" hereby undertakes to liaise on a regular basis with the designated Risk Control Officer and "Council" representative regarding any hazards or incidents that may be identified or encountered during the performance of the "Principal Contract".

16.0 SERVICE INTERRUPTION

- 16.1 Should any work done by the "Contractor" cause a possible interruption, written permission must be obtained from "Council", before such work commences. The "Contractor" may not switch on or off any compressed air, steam, oxygen, vacuum supply or electrical supply without written permission from the "Council".

17.0 CONFIDENTIALITY

- 17.1 The "Contractor" and his employees shall regard all data, documentation and information of the contract and related documentation as confidential.
- 17.2 Lost documentation/plans or related documentation shall immediately be reported in writing to the "Council".
- 17.3 The "Contractor" shall not put up any advertisements or billboard at the site without permission.
- 17.4 The "Contractor" shall not take photographs of the contract site or part thereof or any work process or part thereof, without written permission from the "Council", or have photographs taken, published or let it be published.

18.0 CONTRACT SITE AND PRESERVATION

- 18.1 Employees of the "Contractor" shall not be allowed entrance to the site unless a valid identity document, issued by "Council", is displayed. The mentioned documents shall only be valid for a limited period, where after it must be renewed.

19.0 COMPLETION OF WORK

- 19.1 The "Contractor" or his employees shall not leave the contract site before the "Council" is satisfied that the contract is completed according to the requirements and standards set out in the contract and that the working site is left in a satisfactory and safe condition.

20.0 LIQUOR, DRUGS, DANGEROUS WEAPONS AND FIREARMS

20.1 The “Contractor” shall ensure that no liquor, drugs, dangerous weapons or firearms be brought onto the premises.

21.0 SEARCHES

21.1 The “Contractor” and any person engaged in the contract work may at any time be searched by “Council” appointed security personnel and all packages, suitcases, etc. must be presented to the access control point for examination prior to them being brought onto the property or leaving the property.

22.0 GENERAL CONDITIONS

22.1 Notwithstanding anything to the contrary in this agreement, it is hereby specifically determined that the “Contractor- “

22.1.1 shall have acquainted himself and be conversant with the contents of all statutory provisions applicable to the health and safety of workers and other persons on the site including the execution of the work, and in particular the conditions contained in the Occupational Health and Safety Act, 1993 (Act 85/1993), and the regulations promulgated in terms thereof, and shall comply therewith meticulously and in all aspects and/or take care that it is complied with;

22.1.2 shall be obliged to immediately execute all instructions given to him by an authorized representative of “Council” in order to ensure and uphold the implementation and enforcement of the provisions referred to in sub-paragraph 1, to the satisfaction of the said representative;

22.1.3 shall indemnify the “Council” against any or all liability which may be incurred by the “Council” as a result of the omission of the “Contractor”, his employees, sub-contractors and/or representatives to comply with the provisions referred to in sub-paragraph 1, or to ensure that it shall be complied with;

22.1.4 shall undertake to pay upon demand any and/or all legal costs and other expenses which “Council” may have incurred as a consequence of any criminal charges or other proceedings pending against, or involving the “Council” as a result of the contravention or non-compliance by the “Contractor”, his employees, sub-contractors and/or representative of any of the statutory provisions referred to in sub-paragraph 1.

22.1.5 Should the “Contractor” neglect to immediately execute any health and safety written orders issued to him, or to his employee in charge of the works, in terms of the stipulations of sub-paragraph 2, the “Council” shall be entitled to suspend the execution of the works and take the necessary steps to execute or have such order executed. Under these circumstances the contractor shall be obliged to pay “Council”, upon demand, all costs and expenses incurred by “Council”, in order to execute or have the said orders executed.

22.1.6 Should the abovementioned steps not establish a healthy and safe work environment the “Council” will be entitled to terminate the contract without incurring any further costs or claims from the contractor?

23.0 "CONTRACTOR" IDENTIFICATION BOARD

23.1 The "Contractor" shall provide on any work premises a temporary identification board containing at all worksites the following information:
Company name on behalf of which division/department the work is being done.
The contact number and name of the person representing the "Contractor". The contact number and name of the person representing "Council"

24.0 ACKNOWLEDGEMENT

24.1 The "Contractor" hereby acknowledges that he has read and received a copy of the "Principal Contract" and agrees to be bound by and undertakes to observe all the terms and conditions of the "Principal Contract". This appointment is made in terms of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993.

EXCEPTIONS AND OMISSIONS

REMARKS

THE CONTRACTOR

SIGNED AT ON THIS DAY OF

WITNESSES:

..... 1.

THE CONTRACTOR

2.

THE COUNCIL

SIGNED AT ON THIS DAY OF

WITNESSES:..... 1.

THE COUNCIL

2.

b) INDEMNITY CERTIFICATE

Contractor:

Employer: Polokwane Municipality

Contract:

I/we

Hereafter the "Contractor"

"Contractor" hereby indemnifies the Polokwane Municipality (Council) against any claim of whatever sort which may arise directly or indirectly from the execution by me/us of the above-mentioned contract and which may be instituted against "Council", as well as of any loss or damage which the "Council" suffers or expenditure the "Council" incurs to prevent responsibility for such claim, loss or damage, whatever the cause of such claim may be or whatever loss or damage the "Council" suffers.

THUS done and signed at on this

day of 20.....

WITNESSES:

1. **CONTRACTOR**

2. **COUNCIL**

c) ACKNOWLEDGEMENT CERTIFICATE

I, in my capacity as

Duly authorized hereto
representing

Contractors, acknowledge receipt

of a copy of the Polokwane Municipality's safety manual for contractors and the under mentioned person as my supervisor regarding all works and services which must be executed by the Contractor. The appointment is done in terms of the Occupational Health and Safety Act, 1993 (Act 85/1993).

SIGNED AT ON 200...

I, accept the
abovementioned appointment, and declare that I am familiar with the contents of the Polokwane Municipality's Safety Manual for contractors

CASUALTIES REGISTRATION NUMBER

SIGNED AT ON 200....

SIGNATURE:

WITNESSES: 1.

.....

A copy of this certificate shall be submitted to the "Council" before any work commences.

C1.5: Agreement with Adjudicator

This agreement is made on the..... day of 20.....between: the Employer

(name of company /
organisation).....

of
(address).....
.....and the

Contractor

(name of company / organisation)

.....
of
(address).....

.....
(hereinafter called **the Parties**)

and

(name).....
of (address)
.....

.....
(hereinafter called **the Adjudicator**)

Disputes or differences may arise/have arisen* between the Parties under a Contract dated.....

and known as Contract No.....

(Contract
title).....

and these disputes or differences shall be/have been* referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "**the Procedure**") and the Adjudicator may be or has been requested to act.

(* Delete as necessary)

IT IS NOW AGREED as follows:

The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.

The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.

The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.

The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.

The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

SIGNED by:

(Signature): (Signature): (Signature):

Name:
who warrants that he/ she is
duly authorised to sign for and
on behalf of the **First Party** in
the presence of

Name:
who warrants that he/ she is
duly authorised to sign for
and on behalf of the **Second
Party** in the presence of

Name:
the **Adjudicator** in the
presence of

Witness:
(Signature).....

Witness:
(Signature).....

Witness:
(Signature).....

Name:
Address:

Name:
Address:

Name:
Address:

..... Date: Date: Date:

PART C2: PRICING DATA

C2.1: PRICING INSTRUCTIONS

1. GENERAL

The pricing instructions describe the criteria and assumptions which will be assumed in the Contract that the Bidder has taken into account when developing his prices. The Bills of Quantities record the Contractor's rates for providing supplies, services, engineering and construction works in accordance with the Scope of Work.

The terms of payment and the provisions for price adjustment, if applicable, are established in the Contract Data. These items are not described in the Pricing Data.

The Bidder's obligations in pricing the Bidder offer and the Employer's undertakings in the checking and correction of arithmetical errors are dealt with in the Standard Conditions of Bidder contained in Annexure F of SANS 294, as amended in and read in conjunction with the Bidder Data.

2. DOCUMENTS MUTUALLY EXPLANATORY

The documents forming the Contract are to be taken as mutually explanatory of one another. The Bill of Quantities forms an integral part of the Contract Documents and shall be read in conjunction with the Bidder Data, Contract Data, Scope of Work, Site Information General and Special Conditions of Contract, the Specifications and the Drawings.

3.0 DEFINITIONS

For the purpose of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Scope of Work and Site Information.
Quantity	:	The number of units of work for each item.
Rate	:	The payment per unit of measurement at which the Contractor Contracts to do the work.
Amount	:	The product of the quantity and the rate Bidden for an item.
Sum	:	An amount contracted for an item, the extent of which is described in the Bill of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

4.0 DESCRIPTIONS

Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Bill, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.

5. REFERENCES

The clauses in a specification in which further information regarding the schedule item can be obtained appear under “Reference clause” in the Bill. The reference clauses indicated are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the letter or letters which follow SABS in the SABS 1200 series of specifications, e.g. G for SABS 1200 G.

5.0 UNITS OF MEASUREMENT

The units of measurement indicated in the Bill of Quantities are metric

units. The following abbreviations are used in the Bill of Quantities:

%	=	per cent
h	=	Hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kW	=	kilowatt
l	=	Litre
m	=	metre
mm	=	millimetre
MN	=	meganewton
MN-m	=	meganewton-metre
MPa	=	megapascal
m ²	=	square metre
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
m ² -pass	=	square metre-pass
no	=	number
PC sum	=	Prime Cost sum
Prov Sum =	=	Provisional Sum
sum	=	lump sum
t	=	ton (1 000 kg)

7 NET MEASUREMENTS

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for off-cuts and waste.

8.0 QUANTITIES

The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

The Contract Amount to be determined in accordance with the conditions of contract identified in the Contract Data shall be computed from the actual quantities of authorized work done, value at rates determined in terms of the Contract Data, against the respective items in the Bill of Quantities.

9. CURRENCY

All rates and sums of money quoted in the Bill of Quantities shall be in Rand and whole cents. Fractions of a cent shall be discounted.

10. VALUE ADDED TAX

Value Added Tax shall be excluded from the rates and sums contracted for the various items of work included in the Bill of Quantities. VAT will be added as a single entry to the summary.

11. RATES AND RICES

11.1 General

- a. The Contractor must price each item in the Bill of Quantities in BLACK INK. Reproduced computer printouts of the Bills of Quantities will not be acceptable.
- b. The rates and prices to be inserted in the Bill of Quantities shall cover all the services and incidentals for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Bidder is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
- c. Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Data, all costs thereof shall be deemed to have been provided for and included in the unit rates and sum amounts contracted for the items scheduled in the Bill of Quantities. Separate additional payments will not be made.
- d. A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bill. The Contractor will not be paid for items against which no rate or lump sum has been entered in the Bill of Quantities.
- e. Should the Contractor group a number of items and contract one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

- f. Should the Contractor indicate against any item that compensation for such item is included in another item the rate for the item included in another item shall be deemed nil.

A submission may be regarded as non-responsive if any rates or lump sums in the Bill of Quantities are, in the opinion of the Employer, unreasonable or out of proportion.

11.2 "Rate only" items

The Contractor shall fill in a rate (in the rate column) against all items where the words "rate only" appear in the Amount column, which rate will constitute payment for work which may be done in terms of this item. Such "rate-only" items are used where it is estimated that little or no work will be required under the item or where the item is to be considered as an alternative to another item for which a quantity is given.

11.3 Arithmetic

Excepting where Sum Amounts are required or where Provisional Sums have been indicated, the Contractor shall enter an applicable rate in the Rate Column of the Bill of Quantities for each scheduled item. He shall also enter an appropriate sum in the Amount column for each scheduled item, by determining in the applicable line item the product of the Quantity and the Unit Rate.

If there is an error in the line item resulting from the product of the unit rate and the quantity, the rate shall be binding and the error of extension as entered in the Bidder offer will be corrected by the Employer in determining the Contract Price.

Where there is an error in addition, either as a result of other corrections required by this checking process or in the Bidder's addition of prices, such error will be corrected by the Employer in determining the Contract Price.

11.4 Labour Intensive work

Item numbers in the schedule of quantities suffixed by the letter "L" shall denote a payment item in respect of work which is required to be executed by labour intensive construction methods. Item numbers with the suffix "L" are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

12. VARIATION IN TEXT

No alteration, erasure or addition is to be made in the text of the Bill of Quantities. Should any alteration, erasure or addition be made, it will not be recognized; the original wording of the Bill of Quantities will be adhered to

POLOKWANE MUNICIPALITY

C2.2 BILL OF QUANTITIES

Content

BILL OF QUANTITIES
Contents

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	Calculation of Tender Sum form	C2.6.42

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1200	GENERAL REQUIREMENTS AND PROVISIONS				
	(a) Generic training	Prov sum	1	120,000.00	120,000.00
	(b) Student training (2 students at R4500 per month for contractor)	Prov sum	1	108,000.00	108,000.00
	Contractor's handling costs, profit and all other charges in respect of subitems B12.01(a) and B12.01(b) above:				
	(i) Generic training	%	120,000.00		
	(ii) Student training	%	108,000.00		
B12.02	Remuneration of the project liaison officer and members of the project steering committee to be paid in equal monthly payments over 12 months:				
	(a) Project liaison officer at R4500 per month	Prov sum	1	54,000.00	54,000.00
	(b) Project steering committee at R140 per member per sitting for maximum 10 members	Prov sum	1	16,800.00	16,800.00
	Contractor's handling costs, profit and all other charges in respect of subitems B12.02(a) and B12.02(b) above:				
	(i) Project liaison officer	%	54,000.00		
	(ii) Project steering committee	%	16,800.00		
1200	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1200	BROUGHT FORWARD				
B12.03	<p>Protection, removal and replacement of services:</p> <p>(a) Underground utility detection:</p> <p>(i) Conduct underground utility detection survey through selected subcontractor</p> <p>(ii) Handling costs, profit and all other charges in respect of subitem B12.03(a)(i) above</p> <p>*NB: For any crossing wayleave application to be done at CoP Roads and Stormwater Department</p> <p>(b) Utility services:</p> <p>The removal, protection, relocation and replacement of existing sewer lines, watermains, fibre-optic, electrical and telecommunication services</p> <p>(i) Handling costs, profit and all other charges in respect of subitem B12.03(b)(i) above</p>	Prov sum % Prov sum %	1 50,000.00 1 600,000.00 600,000.00	50,000.00 50,000.00 600,000.00 600,000.00	
B12.04	Remove and connect electrical cables from existing ground-mounted electrical control unit	number	4		
B12.05	Compliance with the Occupational Health and Safety Act (OHS) and Regulations (Including the Construction Regulations 2014 and COVID-19)	Month	12		
1200	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 1200**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1200	BROUGHT FORWARD				
B12.06	Provision and erection of construction Notice boards as per the drawings	No.	2		
B12.07	Provision of requirements for Extended Public Works Programme (EPWP) for a Target of 69 Labourers: (a) Compensation for payment of workers undergoing training (b) Training Venue (only if required) (c) Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (d) Contractor's handling costs, profit, and all other charges in respect of subitems B12.02(a), (b) and (c)	Prov Sum	1	20 000.00	20 000.00
		Prov Sum	1	5 000.00	5 000.00
		Prov Sum	1	10 000.00	10 000.00
B12.08	Excavation of crosscuts to expose existing services in all classes of material by hand	m ³	375		
B12.09	Construction of speed hump complete as per typical speed hump drawing inclusive of road marking and road signs	No.	4		
B12.10	Dewatering and keeping dry of culvert excavations	Lump Sum	1		
B12.11	Temporary works necessary for soil stability to prevent risk of collapse and or cracking of house/s adjacent to the works.	Lump Sum	1		
1200	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 1300**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS B13.01 The contractor's general obligations: (a) Fixed obligations (b) Value-related obligations (c) Time-related obligations (d) Environmental obligation NB: The combined total tendered for subitems B13.01(a), B13.01(b), B13.01(c) and B13.01(d) shall not exceed 15% of the Contract Sum (excluding CPA, contingencies and VAT)				
1300	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1400

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1400	<u>HOUSING, OFFICES AND LABORATORIES FOR THE EMPLOYER'S AGENT'S SITE PERSONNEL</u>				
14.01	Office and laboratory accommodation:				
	(a) Offices (interior floor space only)	m ²	30		
	(e) Ablution units	Number	3		
14.02	Office and laboratory furniture:				
	(a) Chairs	number	15		
	(d) Desks, complete with drawers and locks	number	2		
	(f) Conference tables	number	1		
B14.03	Office and laboratory fittings, installations and equipment:				
	(a) Items measured by number:				
	(i) 220/250 volt power points	number	4		
	(v) Single CLF-light fittings complete with 18 watt globes	number	4		
	(vi) Wash-hand basins complete with taps and drain	number	1		
	(x) Fire extinguisher, 9,0 kg, all-purpose dry powder type, complete, mounted on wall with brackets	number	1		
1400	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 1400**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1400	BROUGHT FORWARD				
	(xi) Air-conditioning units with, 2,2kW minimum capacity, mounted and with own power connection	number	1		
14.04	Car ports: Car ports, as specified, at offices and laboratory buildings	number	3		
14.08	Services: (a) Services at offices and laboratories: (i) Fixed costs (ii) Running costs	lump sum month	1 12		
1400	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 1500**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1500	ACCOMMODATION OF TRAFFIC				
B15.01	Accommodating traffic and maintaining temporary deviations				
	(a) On intersecting roads	No.	4		
B15.03	Temporary traffic-control facilities:				
	(a) Flagmen	man-day	968		
	(b) Portable STOP and GO-RY signs	No	4		
	(e) Road signs, R- and TR-series, 1 200 mm in diameter	No	4		
	(f) Road signs, TW-series, (rectangular, 1 500 mm sides	No	4		
	(g) Rectangular road signs, TGS-, TIN- AND TW- series(excluding delineators and barricades)	m ²	20		
	(h) Delineators (DTG50J)				
	(i) Single sided blade (250 mm x 800 mm)	No	40		
	(ii) Double sided blade (250 mm x 800 mm)	No	100		
	(j) Traffic cones (600 mm)	No	110		
1500	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 1500**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1500	BROUGHT FORWARD				
	(l) Movable barriers: (i) Supply to site, initial placement, and removal from site of rented barriers (1) Concrete barriers (n) Other signs or facilities: (i) Provision of other signs or facilities (ii) Handling costs and profit in respect of subitem B15.03(n)(i)	m	15 1 19,000.00	19,000.00	19,000.00
1500	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1700

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1700	CLEARING AND GRUBBING				
B17.01	Clearing and grubbing (including overhaul)	ha	1.44		
17.02	Removal and grubbing of large trees and tree stumps:				
	(a) Girth exceeding 1m up to and including 2m	No	8		
	(b) Girth exceeding 2m up to and including 3m	No	1		
	(c) Girth exceeding 3m up to and including 4m	No	1		
17.03	Re-clearing of surface (on the written instructions of the Engineer only)	ha	0.20		
17.04	Clearing and grubbing at inlets and outlets of hydraulic structures	m ²	50		
17.05	Cleaning out of hydraulic structures:				
	(a) Pipes with an internal diameter up to and including 750 mm	m ³	10		
	(b) Pipes with an internal diameter exceeding 750 mm	m ³	10		
	(c) Box culverts up to and including 1,5 m vertical dimension	m ³	10		
	(d) Box culverts exceeding 1,5 m vertical dimension	m ³	10		
1700	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1700

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1700	BROUGHT FORWARD				
B17.07	Demolition and disposal of structures: <ul style="list-style-type: none"> (a) Culvert structures (any type) (b) Concrete paving pedestrian sidewalk (c) Un-reinforced concrete (d) Masonry and stone pitching (e) Reinforced concrete <u>OVERHAUL</u> (Section 1600)	No. m ³ -km	6 360		
17/16.02	Overhaul on material hauled in excess of 1,0 km (ordinary overhaul)				
1700	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1800

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
B1800	DAYWORKS				
B18.01	Personnel during normal working hours:				
	(a) Unskilled labour	hour	2		
	(b) Semi-skilled labour	hour	2		
	(c) Skilled labour	hour	2		
	(d) Ganger	hour	2		
	(e) Flagmen	hour	2		
B18.02	Personnel outside normal working hours:				
	(a) Outside normal working hours and on Saturdays:				
	(i) Unskilled labour	hour	2		
	(ii) Semi-skilled labour	hour	2		
	(iii) Skilled labour	hour	2		
	(iv) Ganger	hour	2		
	(v) Flagmen	hour	2		
	(b) Sundays and public holidays:				
	(i) Unskilled labour	hour	2		
	(ii) Semi-skilled labour	hour	2		
B1800	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 1800

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
B1800	BROUGHT FORWARD				
	(iii) Skilled labour	hour	2		
	(iv) Ganger	hour	2		
	(v) Flagmen	hour	2		
B18.03	Equipment/Plant:				
	(a) Front end loader, 2.0m ³ bucket	hour	2		
	(b) Backhoe loader, 55 - 70kw 0.75m ³ bucket	hour	2		
	(c) Compressor 7,0 cubic meter per minute and two jackhammers	hour	2		
	(d) Grader, 14 000kg / 100kW	hour	2		
	(e) Vibratory roller	hour	2		
	(e) Grid roller, 10 000kg	hour	2		
	(f) Tipper truck, 10 m ³	hour	2		
	(g) Water dowser, 10 000 litre	hour	2		
	(h) Concrete mixer	hour	2		
	(i) Pedestrian roller, double drum- 650mm wide	hour	2		
B18.04	Materials:				
	(a) Procurement of materials (only on written instruction of the Employer's Agent)	Prov Sum	1	R25,000.00	R25,000.00
	(b) Contractor's handling costs, profit and all other charges in respect of subitem B18.04(a)	%		R25,000.00	
B1800	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 1800**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
B1800	BROUGHT FORWARD				
B18.05	Transport: (a) LDV (b) Flatbed truck	km km	50 50		
B1800	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 2100

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
2100	DRAINS				
B21.01	Excavation for open drains: Excavating soft material situated within the following depth ranges (a) below the surface level: (i) 0 m up to 1,5 m (ii) Exceeding 1,5 m and up to 3,0 m (ii) Exceeding 3,0 m and up to 4,5 m (b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	1070		
21.02	Clearing and shaping existing open drains	m ³	20		
21.15	Overhaul for material hauled in excess of 1,0km free-haul (normal overhaul)	m ³ -km	150		
-					
2100	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 2200**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
2200	PREFABRICATED CULVERTS				
B22.01	Excavation:				
	Excavating soft material situated within the following depth ranges below the surface level:				
	(a) 0 m up to 1,5 m	m ³	5,800		
	(ii) Exceeding 1,5 m and up to 3,0 m	m ³	515		
	(iii) Exceeding 3,0 m and up to 4,5 m	m ³	4		
	(b) Extra over subitem B22.01(a) for excavation in hard material, irrespective of depth	m ³	30		
	(c) Extra over subitem B22.01(a) for excavation by hand	m ³	30		
22.02	Backfilling:				
	(a) Using the excavated material	m ³	10,078		
	(b) Using imported selected material:				
	(i) G5 material compacted to 93% of modified AASHTO density	m ³	10		
	(ii) G7 material compacted to 93% of modified AASHTO density	m ³	571		
	(c) Extra over subitems 22.02 (a) and (b) for soil cement backfilling at 2%	m ³	100		
2200	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 2200**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
2200	BROUGHT FORWARD				
B22.03	Concrete pipe culverts: (b) On Class B bedding: (i) Type SC 50 D-load pipes with spigot and socket joints: (1) 450 mm dia (ii) Type SC 75 D-load pipes with spigot and socket joints: (1) 600 mm dia (2) 750 mm dia (3) 900 mm dia (4) 1050 mm dia	m	85		
22.05	Portal and rectangular culverts: (a) Complete with prefabricated floor slabs, as specified in SANS 986 Class 75S: (i) 2 400 mm x 1 800 mm (ii) 2400 mm x 2400 mm (iii) 3 600 mm x 1 800 mm	m	664		
2200	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 2200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
2200	BROUGHT FORWARD				
B22.07	Cast in situ concrete and formwork: In Class A bedding, 75 mm thick screeds and the encasing for pipes, (a) including formwork: (i) Class 20/19 concrete	m ³	315		
22.13	Removing and re-laying existing pipes: < 1 000 mm dia concrete pipes on (a) Class B bedding	m	5		
22.15	Treating surfaces with epoxy resin for joining new to old concrete	litre	5		
22.17	Manholes, catchpits, precast inlet and outlet structures complete: (b) Catchpits: Field inlets complete as per drawing NT05-20-1105-520-2 Typical Details: STORMWATER FIELD (i) INLET DETAILS (e) Extra over or less than subitem 22.17(b) for variations in the depths of catchpits from the standard depth of 1,0 m designated for tendering purposes: (i) Field inlet	number	19		
22.20	Benching (at transitions)	m ²	30		
2200	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 2200**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
2200	BROUGHT FORWARD				
B22.26	Hand excavation to determine the positions of existing services	m ³	50		
22.27	Reinstating trenches: (a) Selected layers	m ²	60		
B22.29	Breaking into prefabricated culvert and connecting concrete pipes of the following size: (a) 450 mm dia (b) 600 mm dia (c) 750 mm dia	number	5		
B22.30	Breaking into prefabricated culvert to construct new drainage structures such as manholes for the following sizes: Manhole complete as per drawing Typical Details: CULVERT (a) CHAMBER DETAILS	number	5		
2200	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 2300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPipes, AND CONCRETE LININGS FOR OPEN DRAINS				
B23.01	Concrete kerbing:				
	(a) Prefabricated barrier kerb, SABS 927 fig 8C, as shown on the drawings	m	100		
	(b) Prefabricated barrier kerb, SABS 927 fig 16	m	959		
	(c) Prefabricated barrier kerb, SABS 927 fig 3	m	100		
	(d) Prefabricated barrier kerb, SABS 927 fig 12	m	10		
23.14	Cutting bituminous surfacing and pavement layers for concrete kerbing, channelling or concrete-lined drains	m	88		
B23.16	Removing existing kerbing	m	50		
2300	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 3100

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
	BORROW MATERIALS				
B31.01	Excess overburden	m ³	300		
31.03	Finishing-off borrow areas in:				
	(b) Intermediate material	ha	0.10		
	(c) Soft material	ha	0.50		
3100	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3300	MASS EARTHWORKS				
B33.01	Cut and borrow to fill, including 1 km free haul:				
	(a) Gravel material in compacted layer thicknesses of 200 mm and less:				
	(ii) G9 gravel compacted to 90% of modified AASHTO density	m ³	1,551		
	(b) Gravel material in compacted layer thicknesses of 200 mm and less including all haul:				
	(ii) G7 gravel compacted to 93% of modified AASHTO density (NOTE: commercial source)	m ³	1,100		
	(c) Rock fill using material obtained from commercial sources	m ³	80		
33.03	Extra over item 33.01 for excavating and breaking down material in:				
	(b) Hard excavation	m ³	50		
B33.04	Cut to spoil, including 1 km free haul. Material obtained from:				
	(a) Soft excavation	m ³	50		
	(b) Intermediate excavation	m ³	10		
	(c) Hard excavation	m ³	35		
3300	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3300	BROUGHT FORWARD				
B33.10	Roadbed preparation and the compaction of materials: <ul style="list-style-type: none"> (b) Compaction to 93% of modified AASHTO density (i) Gravel subbase G5 (unstabilized material) compacted to 93% of modified AASHTO density for a compacted layer thickness of 150 mm (ii) Gravel subbase (chemically stabilized material) compacted to 93% of modified AASHTO density for a compacted layer thickness of 150 mm (C3) 				
33.12	In situ treatment of roadbed <ul style="list-style-type: none"> (a) In situ treatment by ripping (Canal) 				
B33/16 .02	Overhaul on material hauled in excess of 1,0 km (ordinary overhaul)				
33.14	Extra over item 33.01 for excavating material from the pavements and fills of existing roads: <ul style="list-style-type: none"> (a) Non-cemented material (b) Cemented material 				
3300	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 3300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3300	BROUGHT FORWARD				
B33.20	Cut and/or borrow to temporary stockpile including free haul material obtained from <ul style="list-style-type: none"> (a) Soft excavation (b) Intermediate excavation (b) Hard excavation 	m ³ m ³ m ³	100 30 20		
3300	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 3400**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL				
B34.15	Pavement layers constructed from commercial sources, including procurement, cost of material and all haul (a) Gravel selected layer G7 compacted to: (i) 93% of modified AASHTO density for a compacted layer thickness of 200 mm (b) Gravel subbase G5 (unstabilized material) compacted to (NMT): (i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m ³	650		
34/32.06	Stockpiling of material	m ³	100		
3400	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 3500

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3500	STABILIZATION				
B35.01	Chemical stabilization (extra over the untreated layers)				
	(a) 150mm thick Gravel Sub-Base layer	m ³	703		
B35.02	Chemical stabilizing agent:				
	(a) CEM IV cement	t	31		
35.03	Mechanical modification (extra over untreated layer)				
	(b) By mixing materials from different sources	m ³	76		
35.04	Provision and application of water for curing	Kl	250		
35.10	Extra over item 35.01 for chemical stabilization in restricted areas:				
	(a) Mixing in Mechanical mixers	m ³	703		
3500	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 3800**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
3800	BREAKING UP EXISTING PAVEMENT LAYERS				
38.04	Excavating and spoiling material from an existing pavement and/or the underlying fill:				
	(a) Non-cemented material	m ³	250		
	(b) Cemented material	m ³	50		
38.08	Sawing or cutting asphalt or cemented pavement layers:				
	(a) Sawing asphalt	m ²	250		
	(c) Sawing cemented layers:				
	(i) Cemented materials	m ²	250		
3800	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 4100**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
4100	PRIME COAT				
41.01	Prime coat: MC 30 cut-back bitumen with a min application rate of 0.8 l/m ² determined on site by the (c) Engineer)	l	1008		
41.03	Extra over payment item 41.01 for applying the prime coat in areas accessible only to handheld equipment	l	1008		
4100	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

SCHEDULE 1: CIVIL WORKS

SECTION 4200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
4200	ASPHALT BASE AND SURFACING				
42.02	Asphalt Surfacing 40mm thick:				
	(a) Continuously graded (medium graded asphalt, 50/70 pen bitumen)	m ²	1260		
42.04	Tack Coat of 30% stable-grade emulsion	l	756		
42.07	Trial sections:				
	(a) Asphalt surface (40 mm thickness)	m ²	50		
42.08	100 mm Cores in asphalt paving	No	5		
4200	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 5100

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5100	PITCHING, STONEWORK AND PROTECTION AGAINST EROSION				
51.01	Stone pitching: (b) Grouted stone pitching	m ²	300		
5100	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 5200

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5200	GABIONS				
52.01	Foundation trench excavation and backfilling:				
	(a) In solid rock (material which requires blasting)	m ³	20		
	(b) In all other classes of material	m ³	250		
52.02	Surface preparation for bedding the gabions	m ²	260		
52.03	Gabions:				
	(a) Galvanized gabion boxes:				
	(iii) 2,0 m x 1,0 m x 1,0 m with 80 mm x 100 mm mesh and 2,7 mm dia mesh wire	m ³	75		
	(iv) 3,0 m x 1,0 m x 1,0 m with 80 mm x 100 mm mesh and 2,7 mm dia mesh wire	m ³	6		
	(c) Galvanized gabion mattresses 4 x 2 x 0,3 m:				
	(i) 0,3 m deep with 80 mm x 100 mm mesh and diaphragms at 1,0 m centres and 2,7 mm dia mesh wire	m ³	32		
52.04	Filter fabric, Kaymat U24 or approved equivalent	m ²	260		
5200	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 5600

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5600	ROAD SIGNS				
56.01	Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or Class I retro-reflective material, where the sign board is constructed from:				
	(c) Painted Galvanized steel Plate (Chromadec or approved equivalent)				
	(i) Area not exceeding 2 m ²	m ²	65		
	(ii) Area exceeding 2 m ² but not 10 m ²	m ²	25		
56.03	Road sign supports				
	(a) D-Section as per City of Polokwane standard	No	20		
56.05	Excavation and backfilling for road sign supports (not applicable to kilometre posts)	m ³	30		
56.06	Extra over item 56.05 for cement-treated soil backfill	m ³	30		
56.08	Dismantling, storing and re-erecting road signs with a surface area of:				
	(a) Up to 2 m ²	No	6		
	(b) Exceeding 2 m ² but not 10 m ²	No	2		
5600	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 5700

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5700	ROAD MARKINGS				
57.01	Road-marking paint:				
	(a) White lines (broken or unbroken):				
	(i) 100 mm wide	km	0.18		
	(ii) 200 mm wide	km	0.05		
	(b) Yellow lines (broken or unbroken):				
	(i) 100 mm wide	km	0.01		
	(ii) 200 mm wide	km	0.01		
	(c) White lettering and symbols	m ²	150		
	(d) Yellow lettering and symbols	m ²	15		
	(e) Traffic island markings (any colour)	m ²	20		
	(f) Transverse lines, painted island and arrestor bed markings (White, Pedestrian Crossings)	m ²	150		
57.04	Variations in rate of application				
	(a) White paint	ℓ	10		
57.06	Setting out and pre-marking the lines (excluding traffic-island markings, lettering and symbols)	km	0.18		
57.08	Removal of existing, temporary or permanent road markings by:				
	(a) Sand-blasting	m ²	15		
5700	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

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SCHEDULE 1: CIVIL WORKS

SECTION 5800

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5800	LANDSCAPING AND PLANTING PLANTS				
58.01	Trimming: (b) Hand trimming	m ²	4,080		
B58.03	Preparing the areas for grassing: (c) Topsoiling within the canal reserve, where the following materials are used: (i) Topsoil obtained from within the canal reserve or borrow areas (free-haul 1,0 km)	m ³	370		
	(e) Providing and applying chemical fertilisers and/or soil-improvement material: (iv) 2:3:2 (22) (v) 3:2:1 (25)	t	0.6		
		t	0.6		
58.04	Grassing: (e) Hand sowing	m ²	4,080		
58.05	Watering the grass when established by topsoiling only	kl	185		
58.11	Weeding all grass-seeded areas and the grass when established by topsoiling only	ha	0.41		
B58.14	Landscaping of specified areas				
	(a) Beautification	Prov Sum	1	100,000.00	100,000.00
	(b) Handling costs and profit in respect of subitem B58.14(a) above	%	100,000.00		
5800	TOTAL CARRIED TO SUMMARY				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 5900

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
B59.03	Finishing the Site of the Works	lump sum	1		
5900	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 6200**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6200	FALSEWORK, FORMWORK AND CONCRETE FINISH				
62.02	Vertical formwork to provide: (a) Class F1 surface finish to: (iv) Canal walls	m ²	550		
	(c) Class F3 surface finish to: (iv) Outlet walls	m ²	320		
62.03	Horizontal formwork to provide: (a) Class F1 surface finish to: (iv) Canal roof	m ²	220		
6200	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 6300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6300	STEEL REINFORCEMENT FOR STRUCTURES				
63.01	Steel reinforcement for:				
	(e) Canal sections:				
	(i) Mild-steel bars	t	1		
	(ii) High-yield-stress-steel hot-rolled bars	t	12		
	(iii) Welded steel fabric	kg	1,000		
	(f) Outlet structure:				
	(i) Mild-steel bars	t	0.5		
	(ii) High-yield-stress-steel hot-rolled bars	t	2.5		
	(iii) Welded steel fabric	kg	1,000		
6300	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 6400

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6400	CONCRETE FOR STRUCTURES				
64.01	Cast in situ concrete:				
	(a) Class 30/19 in:				
	(iv) Canal walls	m ³	120		
	(v) Canal roof	m ³	196		
	(vi) Canal floor slab	m ³	120		
	(vi) Outlet structure	m ³	120		
64.04	Epoxy bonding of new concrete surfaces to old, using Durapox 120 or approved equivalent	m ²	50		
6400	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2**SCHEDULE 1: CIVIL WORKS****SECTION 6600**

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
6600	NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUPS FOR ELECTRIFICATION, AND PARAPETS AND DRAINAGE FOR STRUCTURES				
66.02	Precast no-fines concrete units, Class NF 15 concrete, in drainage blocks	number	855		
66.19	Drainage pipes and weep holes: (a) Drainage pipes: (ii) 50 mm dia PVC pipes	number	855		
	(b) Weep holes: (ii) 50 mm dia PVC pipes	number	855		
66.21	Synthetic-fibre filter fabric, Kaymat U24 or approved equivalent	m ²	900		
6600	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 7300

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
7300	CONCRETE BLOCK PAVING FOR ROADS				
73.01	Concrete block paving:				
	(a) Concrete pavers, terracotta colour, 25 MPa, with spacer nibs, 50 mm thick	m ²	2,398		
	Concrete pavers, grey colour, 25 MPa, with spacer nibs, 50 mm thick	m ²	2,398		
	(b) Warning Tactile pavers to SANS 784	m ²	40		
	(c) Guidance Tactile pavers to SANS 784	m ²	35		
	(d) Root indicators	m ²	10		
73.02	Cast in situ concrete edge and intermediate beams	m ³	77		
73.03	Provision of approved herbicide and ant poison:				
	(a) Provision of Materials	Prov Sum	1	70,000.00	70,000.00
	(b) Handling cost and profit in respect of subitem 73.03(a) above	%		70,000.00	
B73.04	Concrete bollards				
	(a) Standard 250mm diameter bollard	no.	12		
7300	CARRIED FORWARD				

BID NUMBER PM 11/2021: - NDPG PROJECTS: STORMWATER CANAL PHASE 2

SCHEDULE 1: CIVIL WORKS

SECTION 7300

7300	BROUGHT FORWARD			
B73.05	Removing and stacking existing all types and sizes of paving on restricted areas where NMT facilities are to be constructed, including transport where necessary	m ²	30	
B73.06	Reinstating all types and sizes of existing paving on restricted areas left exposed after NMT facilities have been constructed including finishing off on the areas	m ²	20	
7300	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1			

SCHEDULE 1: CIVIL WORKS

SECTION 8100

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
8100	TESTING MATERIALS AND WORKMANSHIP				
B81.04	Acceptance control testing as required by the Employer's Agent:				
	(a) Cost of testing	PC sum	1	60000.00	60,000.00
	(b) Handling cost and profit in respect of subitem B81.04(a) above	%	60,000.00		
8100	TOTAL CARRIED TO SUMMARY OF SCHEDULE 1				

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2.

SUMMARY OF SCHEDULE OF QUANTITIES

SCHEDULE 1:

1200	GENERAL REQUIREMENTS AND PROVISIONS.....	R
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	R
1400	HOUSING, OFFICES AND LABORATORIES FOR THE EMPLOYER'S AGENT SITE STAFF	R
1500	ACCOMMODATION OF TRAFFIC	R
1700	CLEARING AND GRUBBING	R
1800	DAYWORKS	R
2100	DRAINS.....	R
2200	PREFABRICATED CULVERTS	R
2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND. DNWPipes, AND CONCRETE LININGS FOR OPEN DRAINS	R
3100	BORROW MATERIALS.....	R
3300	MASS EARTHWORKS	R
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL	R
3500	STABILIZATION.....	R
3800	BREAKING UP EXISTING PAVEMENT LAYERS.....	R
4100	PRIME COAT	R
4200	ASPHALT BASE AND SURFACING	R
5100	PITCHING, STONEWORK & PROTECTION.....	R
5200	GABIONS.....	R
5600	ROAD SIGNS	R
5700	ROAD MARKINGS	R
5800	LANDSCAPING AND PLANTING PLANTS.....	R
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	R
6200	FALSEWORK, FORMWORK & CONCRETE FINISH	R
6300	STEEL REINFORCEMENT FOR STRUCTURES.....	R
6400	CONCRETE FOR STRUCTURES..... NO-FINES CONCRETE, JOINTS, BEARINGS, BOLT GROUP FOR	R
6600	ELECTRIFICATION, PARAPETS AND DRAINAGE FOR STRUCTURES	R
7300	CONCRETE BLOCK PAVING FOR ROADS.....	R
8100	TESTING MATERIALS AND WORKMANSHIP	R
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TOTAL SCHEDULE 1: CIVILS WORKS		R
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SCHEDULE 2: ELECTRICAL WORKS

P & Gs are included on the SCHEDULE 1 (Civil Works)

This is brownfields project and thus the following issues will need to be taken into consideration:

- Trenching for cables must be done by hand in order to prevent damage to buried services that might have been missed during the survey
- The old lighting installation must not be decommissioned until the entire new installation has been completed
- City of Polokwane Municipality must be informed if connection to the 400 V system is required

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2

SCHEDULE 2: ELECTRICAL WORKS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	<u>SECTION 1: CABLES AND ACCESSORIES</u> LOW VOLTAGE PVC INSULATED POWER CABLES Reference Specification: - SANS 10142-1				
1.1.1	6 mm ² , 4-core	m	2100		
1.1.2	25 mm ² , 4-core	m	120		
1.1.3	16 mm ² , Bare Copper Earth Wire	m	120		
1.1.4	4 mm ² , Bare Copper Earth Wire	m	2100		
1.1.5	2.5mm ² , 4-core	m	305		
1.2	Installation of PVC, SWA, PVC low-voltage cable with copper conductors:				
1.2.1	6 mm ² , 4-core	m	2100		
1.2.2	25 mm ² , 4-core	m	120		
1.2.3	16 mm ² , Bare Copper Earth Wire	m	120		
1.2.4	4 mm ² , Bare Copper Earth Wire	m	2100		
1.2.5	2.5mm ² , 4-core	m	305		
	CARRIED FORWARD				

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2

SCHEDULE 2: ELECTRICAL WORKS

SECTION 1

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Brought forward				
1.3	Supply and Delivery of Cable Terminations for PVC, SWA, PVC low-voltage cable with copper conductors:				
1.3.1	6 mm ² , 4-core	No.	122		
1.3.2	25 mm ² , 4-core	No.	4		
1.4	Installation of Cable Terminations for PVC, SWA, PVC low-voltage cable with copper conductors:				
1.4.1	6 mm ² , 4-core	No.	122		
1.4.2	25 mm ² , 4-core	No.	4		
1.5	Supply and Delivery of Cable Joints for PVC, SWA, PVC low-voltage cable with copper conductors:				
1.5.1	6 mm ² , 4-core	No.	1		
1.5.2	25 mm ² , 4-core	No.	1		
1.6	Installation of Cable Joints for PVC, SWA, PVC low-voltage cable with copper conductors:				
1.6.1	6 mm ² , 4-core	No	1		
1.6.2	25 mm ² , 4-core	No	1		
TOTAL CARRIED TO SUMMARY OF SCHEDULE OF QUANTITIES					

SCHEDULE 2: ELECTRICAL WORKS

SECTION 2

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	SECTION 2: TRENCHING AND EXCAVATIONS Reference Specification: -- Appointment of service provider to supply and deliver steel street lighting poles 117 2016				
2.1	TRENCHING FOR LOW VOLTAGE CABLES <u>Trenching to be done in line with the requirements of</u> Drawing No NT04/20/1103/440/01/02				
2.1.1	Soil dig, backfill, compact hand pickable	m ³	580		
2.1.2	loose rocks /soil dig, backfill, compact	m ³	220		
2.1.3	Rock, rubble, spoil-removal & spoil	m ³	44		
2.1.4	Excavate in all materials for holes for poles, compact hand pickable	m ³	49		
2.1.5	Excavate loose rocks for holes for poles and compact	m ³	12		
2.1.6	Supply and backfill soft pickable sand for cable trenches	m ³	300		
2.1.7	Danger Barriers for Trenches	m	2000		
2.1.8	Supply and Install 110 mm Sleeves pipes for road crossing	m	80		
2.1.9	Tar 60mm thick, cut and remove	m ³	10		
	TOTAL CARRIED TO SUMMARY OF SCHEDULE OF QUANTITIES				

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2

SCHEDULE 2: ELECTRICAL WORKS

SECTION 3

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3	<p><u>SECTION 3: SUPPLY AND INSTALLATION OF STREET AND AREA LIGHTING POLES AND LUMINAIRES</u></p> <p>Reference Specification: - - Appointment of service provider to supply and deliver steel street lighting poles 117 2016 Reference Specification: -Street light Luminaires Reference Specification: - Draft LED Light Fittings Specifications</p> <p>INSTALLATION OF 8.6M STREET LIGHTING POLE</p> <p><u>Installation to be done in line with the requirements of</u> Drawing No NT/04/20/1103/440/01/02 Excavation for the street lighting poles it be at 1.4 m deep in line with City of Polokwane Specification. Locations are indicated in drawing Drawing No NT/04/20/1103/440/01/02</p> <p>Single Spigot: Supply 3.5m mounting height stepped Poles as per City of Polokwane specification (SABS 0225/1991) -complete with access door The Pole must be complete with the following items: 5A miniature circuit breaker(C3-3KA)-Supply 4mm² - Lugs – supply and Install 6mm²- Lugs – Supply and Install 10mm² - Lugs – supply and Install Connect screw: Termination no2 – supply and install Pratley end connector and PVC insulating sleeve size No. 2 Line tap M24, 11.1mm Cable Gland size 2 2.5mm² x 3-core for street lighting Pole internal wiring</p> <p>3.1.2 43 Watts 24 LED Streetlighting Luminaires-as per City of Polokwane Specification 24LED/43W/OPTIC 5307</p>				
3.1.1		No.	61		
3.1.2		No.	61		
TOTAL CARRIED TO SUMMARY OF SCHEDULE OF QUANTITIES					

SCHEDULE 2: ELECTRICAL WORKS

SECTION 4

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4.1	<p><u>SECTION 4: SUPPLY AND INSTALLATION OF POWER SUPPLY</u></p> <p>Reference Specification: - - Appointment of service providers to supply and deliver electrical meter boxes</p> <p>-</p> <p>Drawing No NT/04/21/1105/400/01/01 The following Circuit breakers are connected directly to the rear bus-bars Section of the Kiosk</p> <ul style="list-style-type: none"> • 1x 80A 3P Main Lighting Control C/B • 1x 5A 5kA Photocell Supply C/B <p>The Following equipment is part of the control gear:</p> <ul style="list-style-type: none"> • 1x (5A 5kA Bypass C/B) • 1x Photocells fitted inside kiosk • 1x 60A 3P Contactor <p>The following Circuit breakers are connected directly from the 3P 60A Contactor as per Single line Diagram:</p> <ul style="list-style-type: none"> • 6x 30A 1P, 5kA C/B's • Internal Wiring <p>Kiosk to have Ampi Meters installed as per Polokwane Municipality Requirements</p>	No.	2		
4.2	MCCB: 100 Ampere three pole 6 kA curve 1 circuit inside a weatherproof (IP65)	No.	2		
TOTAL CARRIED TO SUMMARY OF SCHEDULE OF QUANTITIES					

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2**SCHEDULE 2: ELECTRICAL WORKS****SECTION 5**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SECTION 5 – INSTALLATION AND COMMISSIONING</u>				
5.1	Allow for inspection, testing and commissioning of the complete installation.	Sum	1		
5.2	Allow for the preparation of shop drawings or samples for examination as specified.	Sum	1		
5.3	Allow for the provision of a Certificate of Compliance in terms of the SANS specifications for each completed distribution board.	Sum	1		
5.4	Allow for the provision of a complete set (3 Copies) of marked-up record “as-built” drawings of the final layout of the electrical services and an electronic copy in PDF and DWG format.	Sum	1		
	TOTAL CARRIED TO SUMMARY OF SCHEDULE OF QUANTITIES				

SUMMARY OF SCHEDULE OF QUANTITIES

SCHEDULE 2: ELECTRICAL WORKS

SECTION	DESCRIPTION	COST
SECTION 1	CABLES AND ACCESSORIES	
SECTION 2:	TRENCHING AND EXCAVATIONS	
SECTION 3:	STREET LIGHTING INSTALLATION	
SECTION 4:	POWER SUPPLY	
SECTION 5	INSTALLATION AND COMMISSIONING	

TOTAL BILL OF QUANTITIES SCHEDULE 2: ELECTRICAL WORKS

POLOKWANE MUNICIPALITY

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2.

SUMMARY OF SCHEDULE OF QUANTITIES

R

SCHEDULE 1 Civil Works

R

SCHEDULE 2 Electrical Works

R

TOTAL FOR SCHEDULE OF QUANTITIES

POLOKWANE MUNICIPALITY

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2.

CALCULATION OF TENDER SUM

TOTAL FOR SCHEDULE OF QUANTITIES (brought forward)

R

CONTINGENCIES The sum provided here is under the sole control of
the employer and may be deducted in whole or in part

(7%) R

ADD: CONTRACT PRICE ADJUSTMENT PROVISION

(2%) R

VARIATION ON SPECIAL MATERIALS

(2%)

R

SUB-TOTAL

R

15% VAT

R

**TOTAL TENDER SUM CARRIED FORWARD TO FORM OF
OFFER**

POLOKWANE MUNICIPALITY

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2.

PART C3: SCOPE OF WORK

C3.1: DESCRIPTION OF WORKS

C3.2: EMPLOYER'S AGENTING

C3.3: PROCUREMENT

C3.4: CONSTRUCTION

C3.5: PARTICULAR SPECIFICATIONS

C3.5.1. Electrical Specification

C3.5.2. Environmental Specification

C3.5.3. Health and Safety Specification

POLOKWANE MUNICIPALITY

C3 Scope of Work

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's objectives

The employer's objective is to upgrade the existing open drainage system and replace it with an underground stormwater conduit as well as provision of streetlighting and Non-Motorised Transport with pedestrian and Cycle lanes. It is anticipated that upon completion, this project will deliver the following benefits to the users:

- Improve safety within the community through the elimination of an undesirable open stormwater canal.
- Improved connectivity to social amenities including churches, public open spaces, schools, etc. through the provision of Non-Motorised Transport facility that will be constructed above the proposed culvert.
- Improved night visibility by provision of the streetlighting.

Polokwane NDPG Overview

The NDPG's Urban Network Strategy represents a targeted investment programme that will transform the spatial form of South Africa's larger urban centres, and increase access to amenities, especially for the poor located in marginalised settlement areas, such as the township of Seshego.

The City of Polokwane is currently implementing the Neighbourhood Development Partnership Grant's (NDPG) Urban Network strategy in line with the South African government's intentions to eradicate spatial inequalities that exist in the country as outlined on the National Development Plan.

C3.1.2 Overview of the works

The work to be performed under this contract comprises of the construction of an underground stormwater conduit. The scope of work is expected to be executed over a 12-month period.

C3.1.3 Extent of the works

The work to be carried out for the construction of the project includes:

Preparation and Ancillary Works

- Establishment of the Contractor's campsite and the provision of facilities for the Employer's Agent
- Supply plan labour, tools equipment and materials necessary to complete the work.

Services

Before any work commences, the Contractor shall contact all private owners or public authorities controlling services so that they may, either protect, move or relocate any service as required, or confirm that all such work has been completed.

Payment will not be made for any inconvenience caused to the Contractor in regard to any services crossing the site or any authority working on or relocating any such services, nor will any delays caused by such work or relocation be accepted as a basis for claiming an extension of time for completing the works.

All known existing services and those services which require relocation and protection, are shown on the services plans. The Contractor's attention is drawn to the fact that such services information is based on information supplied by others, and the accuracy and completeness of this information has

not been confirmed. The Contractor will therefore be required to proceed with extreme caution in order to avoid damage to existing services. Before commencing any work in the vicinity of services, the Contractor shall contact the relevant service authorities for assistance in locating the exact position of the services and where necessary the Contractor shall accurately locate the services by careful hand excavation.

Accommodation of Traffic

The Contractor is to liaise with the City of Polokwane Roads & Stormwater Department (for municipal roads) with regards to any temporary road closures as required during this contract.

Accommodation of traffic during construction shall be undertaken to the requirements and details shown on the accommodation of traffic drawings.

Approximate quantities of each type of work are given in the Schedule of Quantities.

Setting Out of Works

Whilst surveys have been carried out of the site, and the designs based on such surveys, it is the responsibility of the Contractor to recheck all the benchmarks and protect the benchmarks from damage at the start of the contract. It is the Contractor's responsibility to set out the Works and any discrepancies in the design or setting out shall be identified and brought to the attention of the Engineer promptly so they can be corrected before any abortive expenditure is incurred.

Construction works for Canal

1.1 Alterations

- i. Breaking up and removal of existing asphalt roads, pavement layers, kerbs, paving blocks, brick structures, etc.
- ii. Removal of existing road markings
- iii. Cleaning out existing hydraulic structures

1.2 New works

- i Clearing and grubbing of the canal prism;
- ii Mass earthworks to achieve the required levels;
- iii Construction of pavement layers;
- iv Construction of stormwater drainage including extension, tie-in and repairs to existing stormwater drainage infrastructure, construction of new concrete pipe and box culverts, manholes, inlet and out structures;
- v Construction of Non-Motorised Transport Facilities including pedestrian walkways (segmented block paving), cycle lanes (segmented block paving) and Tactile Ground Surface Indicators (TGSIs);
- vi Provision of Electrical Streetlighting;
- vii Road markings as well as the supply and erection of road signs;
- viii Continuous quality control over materials and works, and compliance with the Particular Specifications about environmental management and occupational health and safety during construction activities;
- ix Finishing off the roadway, and de-establishment of Contractor's campsite and 12 months defects liability period; and
- x Provision of landscaping and beautification.

C3.1.4 Location of the works

The project is located in Polokwane, at Seshego under Polokwane Municipality

C3.1.5 DRAWINGS

The following drawings are applicable to the contract:

LIST OF DRAWINGS	
PROJECT INFORMATION:	
NT05-20-1105-500-1	COVER
GENERAL:	
NT05-20-1105-501-1	SITE LOCALITY PLAN & DRAWING LIST
LAYOUT PLANS:	
NT05-20-1105-502-1	NMT - LAYOUT PLAN – SHEET 1 OF 2
NT05-20-1105-502-2	NMT - LAYOUT PLAN – SHEET 2 OF 2
NT05-20-1105-502-3	STORMWATER - LAYOUT PLAN – SHEET 1 OF 2
NT05-20-1105-502-4	STORMWATER - LAYOUT PLAN – SHEET 2 OF 2
LONGITUDINAL SECTION	
NT05-20-1105-504-1	NMT - LONGITUDINAL SECTION
NT05-20-1105-504-2	STORMWATER - LONGITUDINAL SECTION – SHEET 1 OF 4
NT05-20-1105-504-3	STORMWATER - LONGITUDINAL SECTION – SHEET 2 OF 4
NT05-20-1105-504-4	STORMWATER - LONGITUDINAL SECTION – SHEET 3 OF 4
NT05-20-1105-504-5	STORMWATER - LONGITUDINAL SECTION – SHEET 4 OF 4
TYPICAL CROSS SECTIONS:	
NT05-20-1105-505-1	TYPICAL CROSS SECTION – SHEET 1 OF 2
NT05-20-1105-505-2	TYPICAL CROSS SECTION – SHEET 2 OF 2
NMT DETAIL CROSS SECTIONS	
NT05-20-1105-518-1	NMT DETAIL CROSS SECTIONS – SHEET 1 OF 2
NT05-20-1105-518-2	NMT DETAIL CROSS SECTIONS – SHEET 2 OF 2
STANDARD DETAILS	
NT05-20-1105-520-1	TYPICAL RAISED PEDESTRIAN CROSSING
NT05-20-1105-520-2	STORMWATER FIELD INLET
NT05-20-1105-520-3	KERB INLET DETAILS
NT05-20-1105-520-4	TYPICAL CROSS CUTDETAILS
ELECTRICAL	
NT/04-21-1105-400-01-01	LIGHTING LAYOUT
NT/04-21-1105-402-01-01	SINGLE LINE DIAGRAM

C3.2 EMPLOYER'S AGENT

C3.2.1 Design

- (a) The Employer is responsible for the design of the permanent Works as reflected in these Contract Documents unless otherwise stated.
- (b) The Contractor is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- (c) The Contractor shall supply all details necessary to assist the Employer's Agent in the compilation of the as-built drawings. This includes conducting topographical surveys of the finished works, at the Contractor's cost, and providing survey information in a format acceptable to the Employer's Agent.

C3.2.2 Employer's Design

- (a) The Employer's design is as detailed in the documentation and on the Drawings.

C3.2.3 Contractor's Design

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works he shall supply full working drawings supported by a professional Employer's Agent's design certificate.

C3.2.4 Drawings

The reduced drawings that form part of the Tender Documents are to be used for tender purposes only.

The Appointed Contractor will be supplied with two (2) A1 paper prints of each of the Drawings.

Any information in the possession of the Contractor that is required by the Employer's Agent's Representative to complete his as-built drawings must be supplied to the Employer's Agent's Representative before a Certificate of Completion will be issued.

Only figured dimensions must be used and Drawings must not be scaled unless required by the Employer's Agent. The Employer's Agent will supply any figured dimensions that may have been omitted from the Drawings.

The levels given on the Structural Drawings, if applicable, are subject to confirmation on the Site and the Contractor shall submit all levels to the Employer's Agent for confirmation before he commences construction of any structure. The Contractor shall also check all clearances given on the Drawings and shall inform the Employer's Agent of discrepancies.

One full size set of prints of the Drawings shall be kept by the Contractor on the site and these shall at all reasonable times be available for inspection and use by the Employer's Agent and Employer's Agent's Representative, or by any other persons so authorised by the Employer's Agent in writing.

The Contractor shall notify the Employer's Agent in writing of any additional drawings or specifications required for the proper execution of the works, a reasonable period before these are required.

The issue of Contract drawings to the Contractor is on the explicit condition that they shall only be used for the execution of the works.

C3.2.5 Design procedures

All designs and modifications thereto shall be communicated in writing and the Contractor and Employer's Agent shall maintain master lists to record and track all transactions.

C3.2.6 Construction in confined areas

It may be necessary for the Contractor to work in confined areas. No additional payment will be made for work in "restricted areas" as described in Section 6100 of the Standard Specifications. In certain areas the width of the fill material and pavement layers may reduce to zero and the working space may be confined. The method of construction in these confined areas depends on the Contractor's Constructional Plant. However, the Contractor must note that measurement and payment will be in accordance with the specified cross-sections and dimensions, irrespective of the methods used to achieve these cross-sections and dimensions, and that the rates and amounts tendered will be deemed to include full compensation for any special equipment or construction methods or for any difficulty encountered in working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for payment be considered on account of these difficulties.

C3.2.7 Water for construction purposes

The Contract will be undertaken in an arid area with scarce water resources. The Contractor needs to make his own arrangements for water to be used in the Construction Works.

C3.2.8 Construction Programme

(a) General

The Contractor's programme to be submitted in terms of Clause 5.6 of GCC 2015 shall take full account of all matters that may impact on the sequence of executing the various components of the Works and the requisite rate of progress of the Works, as are specified in or reasonably to be inferred from the Contract. The programming of the works must be agreed with the Client.

(b) Format

The construction programme to be submitted by the Contractor in accordance with the provisions of Clause 5.6 of GCC 2015 shall:

- (i) be in accordance with the phasing of the construction as agreed with the Client;
- (ii) be in the form of a MS Project Gant chart;
- (iii) clearly indicate the start and end dates and duration of all construction activities and identify **the critical path**; and
- (iv) take full cognizance of all the Contractor's risks and obligations in terms of the Contract.

C3.3.1 Preferential procurement procedures

The works shall be executed in accordance with the Preferential Procurement Policy Framework Act and Preferential Procurement Regulation 2011.

C3.3.2 Scope of mandatory subcontract work

The Contractor shall without delay enter into contract with the subcontractor based on their accepted quotation. The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

Procurement will purely be based on price.

C3.4 CONSTRUCTION**C3.4.1 STANDARD SPECIFICATIONS**

(a) The following specifications shall apply for the construction of the Works.

The COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998).

The Contractor may purchase copies of Volume (i) from the South African Institution of Civil Employer's Agents.

SAICE

Waterfall Park	Postnet Suite 81	Tel: 011 805-5947
Howick Gardens	Private Bag X65	Fax: 011 805-5971
Vorna Valley	Halfway House	Contact Person: Angeline Aylward
Becker Street	1685	
Midrand		

(b) SABS or BS Specifications and Codes of Practice

Wherever any reference is made to the South African Bureau of Standards (SABS) and the British Standards Specification (BSS) in either these Bill of Quantities or the Specification of Materials and Methods to be Used (OOG-001E), this reference shall be deemed to read "SABS or equivalent standard and BS or equivalent standard" respectively.

(c) Various other specifications specified in the COLTO Standard Specifications or the Project Specifications.

The Project Specifications form an integral part of the Contract Documents and supplement the Standard Specifications.

In the event of any discrepancy with a part or parts of the standard specifications, the schedule of rates or the Drawings, the project specifications shall take precedence.

The Standard Specifications which form part of this contract have been written to cover all phases of work normally required for road contracts and may therefore cover items not applicable to this particular contract.

C3.4.2 PROJECT SPECIFICATIONS: GENERAL**C3.4.2.1 Accommodation of traffic**

The Contractor shall organise the work to cause the least possible inconvenience to the public, the service providers to the factory and to the factory operations. In this respect the Contractor's attention is drawn to Clause 8.1.2 of GCC 2015.

All powered vehicles used on the Contract shall be fitted with warning signboards mounted across the back and front of the vehicle. These boards shall be the same width as the vehicle, 400 mm high, display the word "CONSTRUCTION VEHICLE" in bold black lettering on a yellow background and be subject to the approval of the Employer's Agent.

In addition, all vehicles and items of mobile plant operating on site shall be supplied with electrically operated amber rotating beacons of robust construction. The amber lens shall have a height of at least 200 mm and an output of at least 50 W. The beacons shall be placed to be clearly visible from all directions for approximately 300 metres.

No additional payments shall be made for the furnishing of these boards and rotating beacons.

The Contractor shall provide, at his expense, reflective waistcoats, overalls, protective goggles, gloves, hard hats, waterproof clothing etc., which may be necessary for the execution of the contract.

All normal work will be limited to the periods specified in the Conditions of Contract.

Where temporary road signs are required, this will be provided by the Contractor and the Contractor shall at all times ensure proper maintenance thereof.

Failure to maintain road signs, warning signs or rotating lights, etc., in a good condition shall constitute ample reason for the Employer's Agent to bring the works to a stop until the defective items have been repaired to the satisfaction of the Employer's Agent.

The Contractor may not commence constructional activities before adequate provision has been made to accommodate the traffic as agreed with the Client and/or instructed by the Employer's Agent.

Any cost associated with the accommodation of traffic must be included in the relevant payment items.

The Contractor must ensure that access for pedestrians and vehicles to properties adjacent to the roads is maintained throughout the duration of the contract. Where the temporary closure of driveway accesses is unavoidable, the Contractor must ensure that;

- construction activities are sequenced to avoid prolonged closure of multiple accesses.
- Alternative temporary access is provided;
- The affected property owner is consulted prior to start of the works.

C3.4.2.2 Contractor's camp site

The Contractor shall make his own arrangements for a suitable site for his camp.

C3.4.2.3 Security

The Contractor shall be responsible for the security of his personnel and equipment on and around the site of the works and for the security of his camp. No claims in this regard will be considered.

C3.4.2.4 Power supply and other services

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

C3.4.2.5 Existing services

At commencement of the Works, the Client will provide drawings showing indicative positions of all known existing services to the Contractor. It is anticipated that additional unknown services may also be encountered during construction.

Prior to commencement of the works, and following the written instruction of the Employer's Agent, the Contractor is required to appoint a qualified Surveyor to carry out an underground utility detection in accordance with the THM11. The Surveyor shall be appointed in accordance with clause 4.4.4 of the General Conditions of Contract 2015. The results of the investigations must be provided to the Employer's Agent prior to commencement of physical works.

The Contractor is also required to carry out exploratory excavations to prove the

positions, depth and size of known and unknown services and provide the information to the Employer's Agent.

In relocating the service, the Contractor must adhere to the service owner's requirements which are to be confirmed in conjunction with the Employer's Agent during construction. Where so instructed by the Employer's Agent, the Contractor must appoint specific service providers approved by the service owner's, or pay the service owner directly to undertake service relocation and or protection of services under their ownership. The appointment must be in accordance with clause 4.4.1 of the General Conditions of the Contract.

The Contractor will nevertheless be required to be continually vigilant of the possibility of the existence of other services that may affect the works.

The Contractor is responsible for the protection of all services and will be held accountable in the event of any damage caused by him or by his subcontractors or staff. The Contractor will also be accountable where damage is caused by a third party which can be attributed to negligence on the Contractor's part on providing adequate protection.

C3.4.2.6

Samples

The Contractor has to ensure that the building material provided, conforms to the specifications.

C3.4.3

PROJECT SPECIFICATIONS RELATING TO STANDARD SPECIFICATIONS

C3.4.3.1

General Conditions of Contract Referred to in the Standard Specifications

The references to the General Conditions of Contract appearing in the COLTO Standard Specifications refer to the COLTO General Conditions of Contract which is superseded in this contract by the General Conditions of Contract for Construction Works 2015. The corresponding clause in the latter document pertaining to the reference in the COLTO Standard Specifications is listed in the table below.

Clause No. in the Standard Specifications	Clause No. in COLTO General Conditions	Equivalent Clause No. in General Conditions of Contract 2015
1202	15	5.6
1206	14	Deleted
1209	52	6.10
1210	54	5.14
1212(1)	49	6.8
1215	45	5.12
1217	35	8.2
1303	49	6.8
1303	53	6.11
1303	12	5.7
1303	45	5.12
1403	40(1)	5.7
1505	40	5.7
31.03	40	5.7
3204(b)	40	5.7

C3.4.3.2

Amendments to the Standard Specifications

As at 22 April 2018 no amendments have been issued.

C3.4.3.3 Project Specifications Relating to Standard Specifications

The following COLTO Standard Specification sections are included:

B1	SECTION B1100	: DEFINITIONS AND TERMS
B2	SECTION B1200	: GENERAL REQUIREMENTS AND PROVISION..... : CONTRACTOR'S ESTABLISHMENT ON SITE AND
B3	SECTION B1300	GENERAL OBLIGATIONS
		: HOUSING, OFFICES AND LABORATORY FOR THE
B4	SECTION B1400	ENGINEER'S SITE PERSONNEL
B5	SECTION B1500	: ACCOMMODATION OF TRAFFIC.....
B6	SECTION B1600	: OVERHAUL
B7	SECTION B1700	: CLEARING AND GRUBBING.....
B8	SECTION B1800	: DAYWORKS SCHEDULE
B9	SECTION B2100	: DRAINS
B10	SECTION B2200	: PREFABRICATED CULVERTS
		: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPipes AND CONCRETE LINING FOR
B11	SECTION B2300	OPEN DRAINS.....
	SECTION B3100	: BORROW MATERIAL
B12	SECTION B3300	: MASS EARTHWORKS.....
B13	SECTION B3400	: PAVEMENT LAYERS OF GRAVEL MATERIAL.....
B14	SECTION B3500	: STABILISATION
B15	SECTION B3800	: BREAKING UP EXISTING PAVEMENT LAYERS.....
B16	SECTION B4100	: PRIME COATS
B17	SECTION B4200	: ASPHALT BASE AND SURFACING.....
B18	SECTION B5100	: PITCHING, STONEWORK AND PROTECTION AGAINST EROSION
B19	SECTION B5200	: GABIONS
	SECTION B5600	: ROAD SIGNS
B20	SECTION B5700	: ROAD MARKINGS.....
B21	SECTION B5800	: LANDSCAPING AND PLANTING PLANTS..... : FINISHING THE ROAD AND ROAD RESERVE AND
B22	SECTION B5900	TREATING OLD ROADS.....
B23	SECTION B6200	: FALSEWORK, FORMWORK AND CONCRETE FINISH
B24	SECTION B6300	: STEEL REINFORCEMENT FOR STRUCTURES
B25	SECTION B6400	: CONCRETE FOR STRUCTURES.....

B26 SECTION B7300 : CONCRETE BLOCK PAVING FOR ROADS

B27 SECTION B8100 : TESTING MATERIALS AND WORKMANSHIP.....

B1 SECTION B1100: DEFINITIONS AND TERMS

B1115 GENERAL CONDITIONS OF CONTRACT

REPLACE CLAUSE 1115 WITH THE FOLLOWING:

"The General Works Conditions applicable to this Contract shall be the *General Conditions of Contract for Construction Works*, Third Edition, 2015, 2nd Print, published by the South African Institution of Civil Engineering (SAICE), referred to as GCC 2015.

All references to the *COLTO General Conditions of Contract 1998* in the *COLTO Standard Specifications for Road and Bridge Works for State Road Authorities, 1998* are to be deleted and replaced, where applicable, by references to the Conditions of Contract stated in this clause as detailed in the table hereunder. The context of the reference to the GCC is also noted.

The Contractor shall note that whereas every effort has been made to include all of the affected clauses in the table, there may be some omissions. In every case, however, the Conditions of Contract specified in this clause and amended in the Contract Document shall apply and the Contractor shall be responsible for interpretation of the equivalent clause.

COLTO STANDARD SPECIFICATIONS		COLTO GENERAL CONDITIONS OF CONTRACT, 1998 (GCC)		GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS, SECOND EDITION, 2015	
Clause number	Page number	Clause number	Description or reference	Clause number	Description or reference amended to
1115	1100-2		Definition of GCC		Definition GCC 2015
1202	1200-2	15	Construction programme	5.6	Programme
1204	1200-2		General reference to GCC		Applicable to GCC 2015
1206	1200-3	14	Setting out of works		Clause amended in 1206 of specifications
1209(a)	1200-4		General references to GCC		Applicable to GCC 2015
1209(e)	1200-5	52	Valuation of material brought onto site	6.10	Valuation of material brought onto site
1210	1200-5	54	Certificate of practical completion	5.14	Certificate of practical completion
1212(1)	1200-7	49	CPA on alternative designs	6.8	CPA on alternative designs
1215	1200-9	45	Extension of time for completion due to abnormal rainfall.	5.12	Extension of time for completion due to abnormal rainfall.
1217	1200-10	35	Care of the Works	8.2	Care of the Works
1303(ii)	1300-1		General reference to GCC		Applicable to GCC 2015
1303(iii)	1300-1	49	Price adjustment item 13.01(a)	6.8	Price adjustment item 13.01(a)
1303(iii)	1300-2	49	Price adjustment item 13.01(b)	6.8	Price adjustment item 13.01(b)
1303(iii)	1300-1	53	Variations exceeding 15%	6.11	Variations exceeding 15%
1303(iii)	1300-2	53	Variations exceeding 15%	6.11	Variations exceeding 15%
1303	1300-2	12	Payment item 13.01(c)	5.3	Payment item 13.01(c)
1303	1300-2	45	Payment item 13.01(c)	5.12	Payment item 13.01(c)
1403(c)(ii)	1400-4	40(1)	Variation for rented accommodation	6.4	Variation for rented accommodation
1505	1500-3	40	Variation for temporary drainage	6.4	Variation for temporary drainage
Item 15.08	1500-8	48	Payment of provisional sum	6.6	Payment of provisional sum
Item 15.09	1500-8	48	Payment of provisional sum	6.6	Payment of provisional sum
Item 15.11	1500-8	48	Payment of provisional sum	6.6	Payment of provisional sum
Note (2)	3100-4	40	Payment for prospecting for materials	6.4	Payment for prospecting for materials
3204(b)(iii)	3200-2	40	Payment for oversize material	6.4	Payment for oversize material
3303(b)	3300-2	2	Employer's Agent's decisions, with reference to materials classification	3	Employer's Agent's decisions, with reference to materials classification
Item 44.06	4400-3		General reference to GCC, PC sums		General reference to GCC, PC sums
Item 45.06	4500-3		General reference to GCC, PC sums		General reference to GCC, PC sums
5803(c)	5800-3	40	Variation, for landscaping	6.4	Variation, for landscaping
5805(d)	5800-4	40	Variation, for grassing	6.4	Variation, for grassing
Item 58.10	5800-10	48	Payment for extra work	6.6	Payment for extra work
8103(c)	8100-1	40	Variation, for testing material	6.4	Variation, for testing material
Item 81.02	8100-26		General reference to GCC, provisional sums		General reference to GCC, provisional sums
Item 81.03	8100-26	22	Clearance of site on completion, with reference to core drilling	5.15	Clearance of site on completion, with reference to core drilling

B1136 ROAD PRISM

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"The road prism shall also mean the prism of the runways, taxiways and aprons."

B1155 WORK IN RESTRICTED AREAS

ADD THE FOLLOWING:

"Any omission of payment items from the Pricing Schedules regarding additional or extra over payment for work in restricted areas should be regarded as deliberate and any additional cost incurred shall be included in the bulk rate. (Refer also to sub-clause B1209(g) except for work near structures as defined in Section 6100.)"

ADD THE FOLLOWING CLAUSES:

"B1156 OTHER DEFINITIONS

The COLTO *Standard Specification for Roads and Bridges* has been written for all Contractors, Employers and Employer's Agents. Similarly, the Works and the Site are not defined and the general nature of the entities and elements that collectively constitute construction under a contract are characterised by the use of lower case letters throughout.

These project specifications continue to use lowercase spellings in order to avoid the appearance of the capitalised and non-capitalised words to describe or prescribe the same elements of work required on this project.

B1158 SABS SPECIFICATIONS

Where reference is made in this specification or the standard specifications to SABS specifications, the latest published national standard shall be applicable. Use:

[https://www.sabs.co.za/content/uploads/files/SABS%20Catalogue%20February%202012%20\(abridged\).pdf](https://www.sabs.co.za/content/uploads/files/SABS%20Catalogue%20February%202012%20(abridged).pdf)

for the most up-to-date versions of the various standards.

B1159 AGGREGATE SIZE

Where reference is made in this specification or the standard specifications to aggregate size, nominal aggregate size or maximum aggregate size, the aggregate size as listed shall be replaced with the new corresponding aggregate size as indicated in the following table:

AGGREGATE SIZE	NEW AGGREGATE SIZE
26,5	28
19	20
13,2	14
9,5	10
6,7	7
4,75	5
2,36	2
1,18	1

B1160 BITUMEN-RUBBER

A hot blend of penetration-grade bitumen and fine rubber crumbs. In asphalt work the blend of penetration-grade bitumen and rubber crumbs shall be made before the mixing of modified binder with the aggregates (wet method).

B1161 PATCHING

Patching shall be any repair work to existing pavement layers with the purpose of repairing local failures with a surface area of more than 1,0 m² but less than 100 m². Repairs in excess of 100 m² shall be considered to be reconstruction.

B1162 POTHOLEs

Potholes are local failures covering a surface area of less than 1,0 m².

B1163 REPAIR

Measures aimed at maintaining or improving the condition and/or riding comfort of an existing road.

B1164 STRESS-ABSORBENT MEMBRANE INTERLAYER (SAMI)

A layer of stone chippings and bitumen-rubber constructed between successive pavement layers for the purpose of absorbing stress.

B1165 PROCESS CONTROL

Process control is the responsibility of the Contractor and refers to all testing required to ensure that the completed permanent works comply with the specifications and drawings. All such testing will be subject to inspection and approval by the Employer's Agent.

Process control testing shall be carried out at the cost of the Contractor.

B1166 ACCEPTANCE CONTROL

Acceptance control means whatever testing the Employer's Agent carries out over and above the process control testing already constructed in order to decide on the acceptability of any work submitted by the Contractor. Such testing will be carried out at the cost of the Employer.

B1177 PARTY, PARTIES AND THIRD PARTY

'Party' and 'Parties' means the Client and the Consultant and 'Third Party' means any other person or entity as the Contract requires."

B2 SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

B1202 SERVICES

REPLACE THE FIRST AND THIRD PARAGRAPH WITH THE FOLLOWING:

"This contract shall include the certain work relating to protection, relocating, moving and reinstating of existing services that may be affected by the construction of the works".

"At commencement of the Works, the Employer will provide drawings showing indicative locations of all known existing services to the Contractor. It is anticipated that additional unknown services will also be encountered during construction. The Employer does not take responsibility for accuracy of the accuracy of information provided on the drawings".

ADD THE FOLLOWING TO THE THIRD PARAGRAPH

"Following the written instruction of the Employer's Agent, the Contractor is required to appoint a qualified Surveyor to carry out an underground utility detection in accordance with the THM11. The Surveyor shall be appointed in accordance with clause 4.4.4 of the General Conditions of Contract 2015. The results of the investigations must be provided to the Employer's Agent prior to commencement of physical works. This scope of work for the detection of buried/underground utility services using non-destructive scanning methods. The objective of this activity is to ascertain the exact location of buried services so as to reduce the risk of damaging these facilities during the construction phase of the project. The appointed service provider shall produce electronic drawings and survey data in a format agreed with the Contractor and Employer's Agent, as well as physical AO drawings. The Contractor shall be required to check and determine on site the positions of any services shown on the drawings and picked up from the underground utility detection as described above".

ADD THE FOLLOWING TO THE TENTH PARAGRAPH

"The Contractor must adhere to the service owner's requirements which are to be confirmed in conjunction with the Employer's Agent during construction. Where so instructed by the Employer's Agent, the Contractor must appoint specific service providers approved by the service owner's or pay the service owner directly to undertake service relocation and or protection of services under their ownership. The appointment must be in accordance with clause 4.4.1 of the General Conditions of the of Contract".

B1204 PROGRAMME OF WORK

Amend the word "network" in the fourth line of the first paragraph to read as "bar (Gantt) chart".

Add the following after the third paragraph:

"The bar chart programme to be provided by the contractor shall show the various activities in such detail as may be required by the Employer's Agent. Progress in terms of the programme shall be updated monthly by the Contractor in accordance with the progress made by the Contractor.

The programme shall include the following details:

- (i) A work breakdown structure that identifies all major activities.
- (ii) Schedule start and end dates for each activity.
- (iii) Linkages between activities that clearly identify sequence, floats and critical path.
- (iv) Monthly cashflow projections.
- (v) Key dates in respect of information required or due delivery"

ADD THE FOLLOWING SUBCLAUSE:

(c) Programme revisions

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity against the original approved programme. The Contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind. The Employer's Agent may demand from the Contractor a major revision of the programme. Such revision shall be submitted to the Employer's Agent within fourteen days of the demand"

In compiling the programme of work, the Contractor shall indicate and make due allowance for the following as specified elsewhere in contract document;

The requirements regarding the accommodation of traffic and areas that may be occupied at any time for construction purposes (as indicated on the drawings and specified in section 1500 of this specification)

The requirements regarding services detection, protection, moving and or realignment as shown on the drawings and specified on section 1200 of this specification.

Requirements regarding the training of labourers and Emerging Contractors

The requirements for work to be undertaken by labourers and work to be undertaken for Emerging Contractors.

B1206

THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The Contractor shall comply with all legal provisions in regard to surveying and setting out work."

B1209

PAYMENT

(b) Rates to be inclusive

ADD THE FOLLOWING TO THE FIRST PARAGRAPH:

"VAT shall be excluded from the rates"

Insert the following after "construction plant" in lines six and seven of the first paragraph.

"(distinguish between operational costs and hire costs)"

IN THE THIRD LINE OF THE FIRST PARAGRAPH, INSERT "together with the payment of VAT as a separate item," AFTER THE WORD "quantities,".

ADD THE FOLLOWING SUBCLAUSES:

(g) Payment certificates

With reference to Clause 6.10 of the General Conditions of Contract, the Employer's Agent's Certificate will only be issued after he has received a draft certificate prepared by the Contractor at his own expense in the form prescribed by the Employer's Agent. The cost of duplicating and delivering copies of the certificate to the Contractor, the Employer's Agent and the Employer shall be borne by the Contractor. The Employer's Agent and the Employer require a total of three sets of A4-sized paper copies.

(h) Trade names

Where materials are specified under trade names, tenders must be based on those specified materials. Alternative materials may be submitted as alternative tenders and the Employer's Agent may, after receipt of tenders, approve the use of equivalent materials."

(i) Work in confined areas

Except where provided for in the specifications AND the bill of quantities, no extra payment shall be made nor shall any claim for additional payment be considered for construction in restricted or confined areas. The omission of standard pay items from the bill of quantities shall be taken to be deliberate and any additional costs incurred shall be included in the tendered rates.

(j) Work in existing watercourse

No extra payment shall be made nor shall any claim for additional payment be considered for the control and safe management of the flow in the watercourse during construction. The omission of pay items from the Bill of Quantities shall be taken to be deliberate and any additional costs incurred shall be included in the tendered rates."

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

ADD THE FOLLOWING PARAGRAPH:

"In addition to the listed specified items of work and regardless of the degree of beneficial occupation by the Employer, no sections of the Works, individually or collectively, shall be considered for practical completion unless the following criteria have been met also:

- (k) In the case of partial completion, the estimated cost to complete the outstanding work is less than 2% of the estimated cost to construct the whole section or sections.
- (l) In the case of the whole Works, the estimated cost to complete the outstanding work is less than 2% of the tendered value of work plus the cost of any variation or extra work orders, but excluding CPA and VAT.
- (m) The written list of outstanding items of work can be completed within 28 days of the list having been accepted in writing by the Contractor."

B1214 CONTRACTOR'S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED

ADD THE FOLLOWING TO THE LAST PARAGRAPH OF SUBCLAUSE (d):

"These written statements shall be handed to the Employer's Agent before the final certificate will be issued. Failing to obtain these written statements from all landowners and authorities concerned, the period of maintenance will be extended including all conditions related to such an extension, until such time that all these statements are obtained.

The obtaining of any such written statements will not relieve the Contractor of the execution of any of his obligations to the satisfaction of the landowner or authority concerned, and to the approval of the Employer's Agent."

Extension of time resulting from abnormal rainfall shall be calculated according to the requirements of Method (ii) (Critical-path method).

Method (ii) (Critical-path method)

Delete the words "(based on a five-day working week)" in the fifth and sixth lines of the second paragraph of Method (ii).

Add the following to the end of Method (ii):

"The value of "n" working days expected delay caused by normal rainy weather as referred to in Method (ii) shall be as given in Table B1215 below for each respective calendar month of any year:

Expected delay of "n" working days due to normal rainy weather	Month	Expected delay of "n" working days due to normal rainy weather
January	91	3
February	72	2
March	61	2
April	3	1
May	22	0
June	4	0
July	5	0
August	4	0
September	14	1
October	41	1
November	80	3
December	91	3

*** Includes the whole month of December / January.

Each "n"-value in Table B1215 applies only to the calendar month immediately to the left of the number, and the "n"-values as specified shall not be taken as being carried forward so as to accumulate over the contract period. If no abnormal rainfall occurs during a particular calendar month in a particular year, then no extension of time for abnormal rainfall shall be granted with respect to that calendar month for that year, and no further consideration shall be given to that "n"-value in respect of that year.

Similarly, if the "n" working days expected delay caused by normal rainy weather during a particular calendar month in a particular year (for which the Contractor shall have made provision in his programme of work in accordance with Method (ii)) are not taken up (either in whole or in part) by standing time due to normal rainy weather during that month of that year, then no further consideration shall be given to those "n" working days (or portion thereof), which effectively have been gained, when any subsequent extension of time claims which may arise later during the contract period are assessed by the Employer."

REPLACE PARAGRAPH (g) WITH THE FOLLOWING:

"(g) The Contractor shall, seven (7) days before each blasting operation is carried out, advise the Employer's Agent thereof in writing. Any such blasting operation shall be confirmed

with the Employer's Agent twenty-four (24) hours prior to execution. The Contractor shall make all the necessary arrangements to keep the public and the provincial traffic authorities fully informed with regard to the closures of the road for blasting purposes."

ADD THE FOLLOWING PARAGRAPH:

"(h) Where blasting needs to be carried out within the road reserve of the existing road, it shall only be allowed between 11:00 and 14:00. The road may not be closed for a period longer than thirty (30) minutes during which time all blasting shall be carried out, debris removed from the road surface and the road made safe and passable for traffic."

B1224

THE HANDING-OVER OF THE ROAD RESERVE

ADD THE FOLLOWING PARAGRAPH TO THE END OF CLAUSE 1224:

"The handing-over of the road reserve for this project shall be subject to the following restrictions:

Only that portion of the road reserve on where construction is taking place shall be handed over to the Contractor. The Contractor shall be responsible for the maintenance along this portion of the road until completion of the contract.

The Contractor shall be required to accommodate public traffic as well as any other Contractors / Sub-Contractor's working on various projects in the area related to any construction work of the portion of the road reserve under construction.

TABLE B1215/1: RAINFALL TABLE

RAINFALL RECORDS FOR PERIOD: 01/01/2009- 31/10/2019

RAINFALL STATION: 0677802 PIETERSBURG WO

LATITUDE: 23°53'35"S LONGITUDE:29°27'36"E HEIGHT:1297 m

LEGEND

'AVE' represents the average rainfall for the month

'ST DEV' represents the standard deviation from the normal

$s = \text{SQRT} (\text{SUM}(X^2)/n - (\text{AVE}(x))^2)$

'N DAY RAIN' represents the average number of rain days per month

'NUM MON' represents the number of months used in the calculation

'r1 r2' represents the average number of raindays in range r1 to r2 inclusive

'MAX R DAY' represents the maximum rainfall that occurred over a 24-hour period. (08:00-08:00)

'MAX RAIN DATE' represents the date on which the maximum 24 hour rainfall occurred

MONTHS	AVE	ST	N DAY	NUM	1mm	5.1mm	10.1mm	20.1mm	50.1mm	100.1mm	MAX R	MAX RAIN
		DEV	RAIN	MON	5mm	10mm	20mm	50mm	100mm	900mm	DAY	DATE
					DAY	DAY	DAY	DAY	DAY	DAY		
JAN	89.9	53.9	4.7	9	1	1.4	0.6	1.2	0.4	0	76.8	1/28/2018
FEB	67	45.4	3.2	11	0.5	0.5	1	0.8	0.2	0.1	112.7	2/19/2018
MAR	52	25.3	2.8	11	0.2	0.9	0.7	0.9	0.1	0	53.7	3/8/2009
APR	44.9	46.1	2	11	0.1	0.4	0.6	0.8	0.1	0	59	4/4/2011
MAY	11.4	14.5	1.1	11	0.2	0.4	0.4	0.1	0	0	23	5/12/2017
JUN	1.5	4.3	0.3	11	0.1	0	0.1	0	0	0	14.5	6/10/2009
JUL	0.8	1.9	0.2	11	0.1	0.1	0	0	0	0	6.5	7/6/2009
AUG	1.9	6	0.1	11	0	0	0	0.1	0	0	21	8/15/2011
SEP	4.5	7.6	0.6	11	0.2	0.3	0	0.1	0	0	23.6	9/6/2015
OCT	49.4	37.1	2.7	11	0.2	0.6	1.1	0.7	0.1	0	76.8	10/8/2017
NOV	54.8	24.8	4.1	9	1.2	1	1.2	0.6	0.1	0	58.5	11/24/2017
DEC	111.6	49.8	4.9	9	0.7	0.8	1.4	1.4	0.6	0	69.5	12/29/2016
YR	489.7		26.7		4.4	6.3	7.1	6.8	1.6	0.1		

B1228

LEGAL PROVISIONS

The Contractor shall be required to comply with the Occupational Health and Safety Act, No 85 of 1993: Construction Regulations, 2014 (the regulations) as promulgated in Government Gazette No 25207 and Regulation Gazette No 37305 of 7 February 2014. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Schedule of Quantity and Drawings, as well as in the Employers' health and safety specifications (regulation 4(1)) of the Construction Regulations 2014, which are bound in the Contract document. The Health and Safety Plan must incorporate the latest COVID-19 regulations as published by the South African government at the time of awarding of the contract.

The Contractor shall in terms of regulation 7(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

A payment item is included in the Schedule of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations.

B1229

SABS CEMENT SPECIFICATIONS

ADD THE FOLLOWING TO THIS SUBCLAUSE:

"Where reference is made in this Specification or the Standard Specifications to the cement specifications, e.g. SABS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

SABS EN 197-1 Cement composition, specifications and conformity criteria Part 1: Common cements.

On this Contract CEM II A-V.

TABLE: SABS CEMENT SPECIFICATIONS

Cement Grade	Cement Type	Approximate old product name	New				
			Alpha	Blue Circle	NPC	PPC	Slag cement
52,5	CEM 1	Rapid hardening	Rapid Hard	Duracast	Eagle Super	-	-
42,5 R	CEM 1	Rapid hardening	-	-	-	Rapo	-
42,5	CEM 1	OPC *	Portland cement	Duratech	-	OPC	-
	CEM 1	LASRC	-	-	-	LASRC	-
	CEM II A-S	PC 15SL	-	-	Eagle Plus	-	-
	CEM II B-S	RH30SL	-	-	Eagle Plus	-	-
32,5R	-	-	-	-	-	-	-
32,5	CEM II A-V	PC 15FA	All Purpose Cement	-	-	Surebuild	-
	CEM II A-W	PC 15FA	-	-	-	Surebuild	-
	CEM II A-L	-	All Purpose Cement	-	-	Surebuild	-
	CEM II B-V or W	PC25FA/PFA C**	-	Structrete	-	Surecrete	-
	CEM III A	PBFC	-	BFC	Eagle Pro	-	PBFC
	CEM IIIA	RHSL	-	-	-	-	RHSL
22,5	MC 22,5X	PFAC ***	Multi-purpose cement	Durabuild	-	-	-
	MC22,5X	PFAC***	-	Buildcrete	-	-	-
12,5	MC 12,5	Walcrete	Mortar cement	Wallcrete	-	Masonry	-

Notes: * OPC cements previously performed approximately as CEM 1 32,5R products.
 PC25FA cements under the old standards achieved lower compressive strengths than the OPCs of the time.
 Some PFAC cements meet the new standard for MC 22,5X. Others required modification before meeting the requirements for MC 22,5X.

ADD THE FOLLOWING CLAUSES:

"B1230 REPORTING OF ACCIDENTS

The Contractor shall report every accident which occurs on the road, within the extent of the Works, to the Employer's Agent, within twenty-four (24) hours of such accident occurring, irrespective of whether such accident has a bearing on damage to the Works or to persons, property or things. The report must be in writing and must contain full particulars of the accident. Photographs of each accident shall also be included in the report. The Employer's Agent has the right to conduct any or all enquiries, either on the Site or elsewhere, as to the causes and consequences of any such accident. The Contractor shall also keep a comprehensive record of all accidents which occur on the road and shall make such records available to the Employer's Agent on demand.

"B1231 MATERIALS

The Contractor, when using materials that are required to comply with any standard specification, shall, if so ordered, furnish the The Employer's Agent with certificates showing that the materials do so comply.

Where so specified, materials shall bear the official mark of the appropriate authority. Samples ordered or specified shall be delivered to the Employer's Agent's ' office on the site free of charge.

"B1232

SUBCONTRACTORS

Over and above the stipulations of clause 4.4 of the General Conditions of Contract 2015, regarding subletting of part of the works, it is a condition of the contract that an approved subcontractor shall not sublet part of his work, covered in his appointment by the main Contractor, to another Sub-Contractor without the consent and approval of the Employer's Agent. Subletting shall in all cases be critically considered by the Employer's Agent.

In addition to the provisions of clause 4.4 of the general conditions of contract 2015, regarding sub-contracting of the works, it is a requirement of this contract that an approved sub-contractor shall not further sub-contract work sub-contracted to him by the main contractor to another Subcontractor without the consent and approval of the Employer's Agent. Sub-contracting shall in all cases be critically considered by the Employer's Agent. The Employer's Agent reserves the right to limit the volume and extend of work sub-contracted by the contractor, should he deem it necessary in terms of progress or quality of workmanship.

It is the intention of the client to maximise Emerging Contractor opportunities on this contract as such the Contractor shall be required to identify in conjunction with the Employer activities to be undertaken using local emerging sub-contractors. The percentage of work to be allocated to local emerging subcontractors is stipulated elsewhere in this document.

The Contractor shall be required to adhere to the City of Polokwane's regulations in procurement and appointment of local emerging sub-contractors.

B1233

PREVENTION OF DAMAGE TO NEARBY PROPERTIES AND SERVICES

All buildings that could be affected by excessive ground vibrations generated during the construction operations will be identified by the Employer's Agent. Before commencing any construction work on the site of the Works which involves the use of vibratory or impact compaction equipment, pavement breakers, piling equipment, pneumatic drills and hammers and excavators or overhead cranes in the vicinity of any public or privately owned buildings the Contractor shall arrange with the property owner for an inspection, and, if permitted by such owner, a photographic survey, of all the items on the property that could be affected by the construction equipment and/or construction processes that the Contractor intends to use.

Written and photographic records must be made of any existing defects, cracks or any other potential weaknesses and the Contractor shall discuss with the property owner and record in writing what preventive and/or mitigation measures that will be taken to avoid or prevent any damage from occurring to the items on the property as a result of the construction work.

The Contractor and the property owner should sign and date these records and a copy shall then be submitted to the Employer's Agent for comments if required and for record purposes. The Contractor shall prepare a written and photographic record of any overhead services or other obstructions on or near the property boundaries such as power lines, telephone lines, fences, walls, signage etc. that could be affected by the construction activities, in particular by cranes, excavators and similar construction equipment that could encroach on the property. These records shall be given to the Contractor's safety officer and the relevant safety plans shall be amended to include

At the start of any work involving equipment that will generate ground vibrations all vulnerable structures must be monitored closely by the Contractor. If there are any signs that any damage is being caused by the ground vibrations the work shall be stopped immediately and the Engineer shall be informed. The Engineer shall then decide if work may continue or if the Contractor must alter his working methods to reduce the ground vibration levels.

Any damage that may occur to buildings, structures, fencing, walls, services and anything else on the property that may be affected by the construction activities shall be repaired or rectified to the satisfaction of the owner at the Contractor's expense unless the Employer's Agent is satisfied that all the necessary and specified precautions were taken by the Contractor and the damage was unavoidable

Item	Unit
B12.01 Training:	
(a) Generic training	provisional (Prov) sum
(b) Student training (2 students).....	provisional (Prov) sum
(c) Contractor's handling costs, profit and all other charges in respect of sub items B12.01(a) and B12.01(b) above:	
(i) Generic Training.....	percentage (%)
(ii) Student training	percentage (%)

Payment under sub items B12.01(a) and B12.01(b) shall be the amounts actually paid to the training institutions and to the student respectively and shall be made in accordance with the provisions of Clause 6.6 of GCC 2015.

The percentages tendered for sub item B12.01(c) shall be the percentages of the amounts actually reimbursed to the Contractor under sub items B12.01(a) and B12.01(b) and shall be in full and final compensation in respect of the Contractor's handling costs, profit, mentoring, record-keeping, reporting and all other charges in connection with providing the services.

Item	Unit
B12.02 Remuneration of the project liaison officer and members of the project steering committee to be paid in equal monthly payments over 12 months:	
(a) Project liaison officer	provisional (Prov) sum
(b) Project steering committee	provisional (Prov) sum
Contractor's handling costs, profit and all other charges in respect of subitems B12.02(a) and B12.02(b) above:	
(i) Project liaison officer.....	percentage (%)
(ii) Project steering committee	percentage (%)

Payment under subitems B12.02(a) and B12.02(b) will be the amounts actually paid to the project liaison officer and members of the project steering committee as agreed upon by the Employer, the Employer's Agent, the project liaison officer and the members of the project steering committee. Payment shall be made in accordance with the provisions of Clause 6.6 of GCC 2015.

The percentages tendered for subitem B12.02(c) shall be the percentages of the amounts actually reimbursed to the Contractor under subitems B12.02(a) and B12.02(b) and shall include full compensation in respect of the Contractor's handling costs, profit and all other charges with regard to the appointment and remuneration of the project liaison officer, and the establishment and remuneration of the project steering committee.

Item	Unit
B12.03 Protection, removal, replacement of and realignment of existing services	
(a) Underground utility detection:	
(i) Conduct underground utility detection survey through selected subcontractor.....	Prov Sum
(ii) Handling costs and profit in respect of subitem B12.06(a)(i) above.....	%

Item	Unit
(b) Utility services:	
(i) Protection, removal, realignment and replacement of Sewer, Water, Fiber optic cables, Electrical and Telkom services.....	Prov Sum
(ii) Handling costs and profit in respect of subitem B12.06(a)(i) above.....	%

Expenditure under items B12.05(a) and B12.05(b) shall be made in accordance with Clause 6.6 of the General Conditions of Contract 2015. The tendered sum for subitem B12.06(b) shall include full compensation the scope as described below.

This scope of work is for the detection of buried/underground utility services. The objective of this activity is to ascertain the exact location of buried services so as to reduce the risk of damaging these facilities during the construction phase of the project.

The services to be surveyed shall include among others:

Portable water supply.

Existing stormwater.

Sewerage reticulation.

Electrical services.

Telecommunication.

Oil Pipeline.

Gas Reticulation.

Ventilation Ducts.

Closed Circuit Television (CCTV).

Combined Services Ducts.

Note that the study is not limited to the services listed above and hence the Service Provider will be required to survey the project study area and record all services encountered. Project specifications are based on TMH 11.

The percentages tendered for subitems B12.06(a)(ii) and B12.06(b)(ii) shall be the percentages of the amounts actually reimbursed to the Contractor under subitems B12.06(a)(i) and B12.06(b)(i) and shall include full compensation in respect of the Contractor's handling costs, profit and all other charges including procurement of special surveying sub-contractors.

Item	Unit
B12.04 Remove and connect electrical cables from existing ground-mounted electrical control units.....	Number

The unit of measurement shall be the complete unit as shown on the drawings including all removal, storage and re-installing each unit, setting-out, etc.

The tendered rate shall include full compensation for procuring, providing, mixing and placing all materials, and for all labour, required remove and reconnection as specified.

Item	Unit
B12.05 Compliance with OHS Act and Regulations including the Construction Regulations 2014 and Covid-19.....	Month

The tendered rate shall include full compensation to the Contractor for compliance with all requirements of the OHS Act and Regulations (including the Construction Regulations, 2014 and all relevant COVID-19 regulations) at all times for the full duration of the contract, as described in the clause B1228 of the project specifications. The successful Tenderer shall provide the Employer's Agent with a complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amounts subject to proper and/or substantial compliance.

Item	Unit
B12.06 Provision and erection of construction Notice boards as per the drawings.....	No.

The tendered rates shall include full compensation for the provision of the completed sign board, frame and fixing brackets, including painting, galvanizing if specified, reflective lettering, symbols, legend and border, attaching the traffic-sign board to the sign support, and for all other materials and workmanship, brackets, bolts, nuts, etc, for the completion of the sign-board faces as specified.

Item	Unit
B12.07 Provision of requirements for EPWP for a Target of 69 Labourers	
(a) Compensation for payment of workers undergoing training.....	Prov. Sum.
(b) Training Venue (only if required).....	Prov Sum.
(c) Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site.....	Prov Sum.
(d) Handling costs and profit in respect of item B12.07(a), (b) and (c).....%	

Expenditure under items B12.07(a), (b) and (c) shall be made in accordance with Clause 6.6 of the General Conditions of Contract 2015. The tendered sum for subitem B12.07 shall include full compensation for compensating the contractor for payment of workers while they are on EPWP training.

The percentages tendered for subitems B12.07(a), (b) and (c) shall be the percentages of the amounts reimbursed to the Contractor under subitem B12.07 (d) and shall include full compensation in respect of the Contractor's handling costs, profit and all other charges.

Item	Unit
B12.08 Excavation of cross-cuts to expose existing services in all classes of material by hand.....	m³.

The unit of measurement shall be cubic metre of material excavated within the lengths and widths authorised by the Employer's Agent and the depth required to expose the service. Excavation in excess of the authorised dimensions shall not be measured for payment.

The tendered rates shall include full compensation for all excavation, backfilling, compacting to 90% of modified AASHTO density, disposing of surplus excavated material, keeping the excavations safe, dealing with any surface or subsurface water, taking special care to ensure that services are not damaged in any way and any other operation necessary for completing the work.

No distinction will be made between hard and soft material nor will distinction be made between the various types of services to be exposed or the depths to which excavations are taken.

NOTE:

The Contractor shall supply adequate supervision for the labourers when excavating to expose services. Any damage to a service caused by the Contractor shall be repaired at his expense to the satisfaction of the owner of the service and the Employer's Agent.

Item	Unit
B12.09 Construction of speed hump complete as per typical speed hump drawing inclusive of road marking and road signs.....	No.

The unit of measurement shall be the complete unit as shown on the drawings including all setting-out, paint marking, etc.

The tendered rate shall include full compensation for procuring, providing, mixing and placing all materials, and for all labour, formwork and incidentals required to complete speed humps as specified.

Item	Unit
B12.10 Dewatering and keeping excavations dry	Lump sum

The tendered rate shall include full compensation to the Contractor for compliant temporary drainage deviation, temporary drainage works, temporary pumps and other equipment as may be necessary for the protection, draining and dewatering of the works during construction for the full duration of the contract. The Contractor shall provide the Employer's Agent with construction method complete breakdown of this tendered sum.

Payment will be made in three instalments in respect of each section of culvert completed as follows:

- (i) The first payment shall be 50% of the lump sum and shall be paid after installation and approval of 0.3km of rectangular portal culvert regardless of the size and number of barrels.
- (ii) The second payment shall be 25% of the lump sum and shall be paid after installation and approval of 0.5km (cumulative) of rectangular portal culvert regardless of the size and number of barrels.
- (iii) The third and last payment shall be 25% of the lump sum and shall be paid after installation and approval of all 1km (cumulative) of rectangular portal culverts regardless of the size and number of barrels.

Item	Unit
B12.11 Temporary works for soil stability to prevent damage to nearby properties.	Lump sum

The tendered lump sum shall include full compensation for undertaking the works as described in clause B2209 of this document.

The tendered lump sum shall include full compensation for the undertaking the works as described in clause B2209 of this document and shall include full compensation for design, procuring materials, providing, mixing and placing all materials, and for all labour, formwork, incidentals, profit, handling fees, and all other works required to execute temporary works necessary to prevent damage to nearby properties.

B3 SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B1302 GENERAL REQUIREMENTS

(c.) Legal and contractual requirements and responsibility to the public

ADD THE FOLLOWING PARAGRAPH:

"The Contractor shall comply with all statutory and contractual requirements of the Environmental Management Programme, as included in the Project Specifications."

ADD THE FOLLOWING NEW SUBCLAUSE:

"(d) Contractor's ablution facilities

The Contractor shall, at each construction section, provide sufficient portable chemical latrine units. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the approval of the Employer's Agent. No separate payment shall be made for this requirement and the costs thereof shall be deemed to be included in the rates tendered for the Contractor's time-related obligations."

B1303 PAYMENT

Item	Unit
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B13.01 The Contractor's general obligations:

ADD THE FOLLOWING SUBITEM:

"(d) Environmental obligation	month
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REPLACE "... for sub item (c) shall, for the three sub items together ..." IN THE FIRST PARAGRAPH WITH "... for sub items (c) and (d) shall, for the four sub items together ...".

ADD THE FOLLOWING AFTER THE ON THE FIRST PARAGRAPH

"This section also covers "the contractor's general obligations" for all sub-contractors appointed by the main contractor. No additional payment shall be paid for sub-contractor's general obligations".

ADD THE FOLLOWING AFTER THE FOURTH PARAGRAPH:

"The combined total tendered for sub items (a), (b), (c) and (d) shall not exceed 15% of the Contract Sum (excluding CPA, contingencies and VAT)."

B4. SECTION 1400: HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL

B1403: HOUSING

ADD THE FOLLOWING:

"The Contractor is not required to provide any housing for the Engineer's supervisory staff as set out under clause 1403 (a), (b), (c) and (d)."

B1404: SERVICES

c) Maintenance

The Contractor shall supply all labour, equipment and materials required for keeping the offices, laboratories and carports in a neat and clean condition and shall immediately undertake any repairs, requested by the Engineer to the office laboratories and carports.

B5 SECTION 1500: ACCOMMODATION OF TRAFFIC

B1501 SCOPE

ADD THE FOLLOWING:

"This section also covers the provision of additional information signs for motorists and the release of any notices to the media and public."

B1502 GENERAL REQUIREMENTS

Providing temporary deviations

ADD THE FOLLOWING PARAGRAPH:

"The Contractor shall keep the municipal traffic department and the Employer's Agent fully informed of changes in the normal traffic flow and obtain their approval for these changes."

Approval of temporary deviations

ADD THE FOLLOWING:

"If, after any temporary deviation has been constructed, any changes are considered necessary or desirable, the proposal shall be submitted to the Employer's Agent for his approval."

Traffic Safety Officer

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

"The Contractor shall submit a Curriculum Vitae of the candidate to the Employer's Agent for approval before the Traffic Safety Officer is appointed. The Traffic Safety Officer shall make himself available to discuss road safety and traffic accommodation matters whenever required by the Employer's Agent."

I. REPLACE SUBSUBCLAUSES (ii) AND (iii) WITH THE FOLLOWING:

"(ii) Record on neat and dimensioned sketches and submit to the Employer's Agent the position and sign reference number where applicable of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each shall be adequately referenced to identifiable permanent features located along the site of the Works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the Traffic Safety Officer and shall be signed by the Traffic Safety Officer before being submitted to the Employer's Agent.

The records shall be amended whenever changes are made in the field and the revised detailed sketches shall be submitted to the Employer's Agent. This shall include the recording of the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used.

Personally inspect the position and condition of each traffic accommodation feature on the whole site of the Works twice each day, 7:30 and 15:30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the Employer's Agent such record sheets by 08:30 and by 16:30 each day. The Traffic Safety Officer shall keep a duplicate book for this specific purpose.

The Traffic Safety Officer shall also submit to the Employer's Agent by 10:00 each morning, a record of all matters pertinent to site safety and traffic accommodation throughout the site of the Works the previous day. He shall also record the daily labour returns of flagmen, stop/go and traffic signal control men employed."

ADD THE FOLLOWING SUBCLAUSES:

"(j) Failure to comply with provisions

Failure or refusal on the part of the Contractor to take the necessary steps to ensure the safety and convenience of the public traffic, accommodation of traffic, plant and personnel in accordance with these specifications or as required by statutory authorities or ordered by the Employer's Agent, shall be sufficient cause for the Employer's Agent to deduct penalties as follows:

A fixed penalty of R5 000,00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of Section 1500 of the Standard Specifications and/or the Project Specifications.

A time-related penalty of R500,00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after an instruction to this effect has been given by the Employer's Agent. The Employer's Agent's instruction shall state the allowable time, which shall be the time in hours for reinstatement of the defects. Should the Contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given.

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

Road signs and barricades

ADD THE FOLLOWING AFTER THE LAST PARAGRAPH:

"The Contractor shall be responsible for the protection and maintenance of all signs and shall at his own cost replace any that have been damaged, or lost, or stolen.

All temporary road signs shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted ballasting of the sign supports shall be by using durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost of the sandbags shall be included for in the tendered rates for the various types of temporary road signs.

The traffic-control devices, temporary signs and devices required in the Contract are those designated in Part 13 of Volume 2 of the South African Road Traffic Signs Manual.

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regards to signposting are met and written approval of the Employer's Agent is obtained. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the immediate replacement of damaged or missing items, in any case, within three hours of instructions having been given by the Employer's Agent. Delineators shall be of the flexible plastic reversible variety and not of the rigid metal variety.

Should the Contractor fail to respond to an instruction to re-erect a road sign within three hours or fail to comply to the requirements, the work on that section will be suspended without any compensation to the Contractor."

Channelization devices and barricades

ADD THE FOLLOWING PARAGRAPHS:

"Drums shall not be used as channelization devices.

TW 401 and TW 402 delineators shall comply with the following requirements:

They shall be manufactured from a flexible material and shall comply with SANS 1555. The blade portion of the delineator shall be positively affixed to a base unit which in turn shall be stable on its own or be stabilized by means of sandbags when used on the road.

The blade shall be retro-reflectoised, with Class I yellow sheeting on the side facing oncoming traffic.

It shall be nominally 1 000 mm high x 250 mm wide and the bottom edge of the delineator shall not be more than 200 mm above the road surface.

The delineators shall be subject to the approval of the Employer's Agent.

The maximum spacing between centres of delineators shall be as shown on the Drawings or as directed by the Employer's Agent.

Traffic cones made of a fluorescent red-orange or red plastic material, shall be used only at short-term lane deviations during daylight. Cones used on all deviations shall be 750 mm high. Lane closures which continue into the night time shall be demarcated by delineators only."

ADD THE FOLLOWING SUBCLAUSES:

"(g) Safety jackets

The Contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the Site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the Employer's Agent, ineffective shall be replaced immediately by the Contractor.

The Employer's Agent, his personnel and visitors shall wear safety jackets at all times when they move about the Site. The Contractor shall provide the Employer's Agent with four (4) safety jackets. The safety jackets shall be orange in colour and shall be submitted for the Employer's Agent's approval before they are purchased. No separate payment will be made for the safety jackets and full compensation therefor shall be included in the rates tendered for in Section 1500.

Other signs or facilities

The Employer's Agent may instruct the Contractor to provide any other road sign, reflective tape, etc. not measured in standard pay items. The road signs shall conform to the requirements of Part 13 of Volume 2 of the South African Road Traffic Signs Manual, or specification provided by the Employer's Agent.

The Contractor shall inform the general public of the intended road works, construction period and accommodation of traffic proposal through press releases in local and provincial newspapers."

B1504 WIDTH AND LENGTH OF TEMPORARY DIVERSIONS

REPLACE THE CONTENTS OF THIS CLAUSE WITH THE FOLLOWING:

"The effective carriageway width for road shall not be less than 6,8 m. wide. Traffic accommodated on an existing No single lane shall be less than 3,4 m. Where the traffic is accommodated in half-widths, the effective lane width for one-way traffic shall not be less than 3,4 m."

B1507 GRAVELLING OF TEMPORARY DEVIATIONS OR OF EXISTING ROADS USED AS TEMPORARY DEVIATIONS

ADD THE FOLLOWING TO THE SECOND PARAGRAPH:

"The gravel material for diversions shall comply with the following:

Maximum size	:	37,5 mm
Oversize index (lo)	:	0 (% retained on 37,5 mm sieve)
Shrinkage products (Sp)	:	100 - 240 (linear shrinkage x % passing 0,425 mm sieve)
Grading coefficient (Gc)	:	16 - 34 [(% passing 26,5 mm - % passing 2,0 mm) x % passing 4,75 mm/100]
CBR	:	15 at 93% of modified AASHTO density."

B1517 MEASUREMENT AND PAYMENT

Item

B15.01 Accommodating traffic and maintaining temporary deviations

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

"The accommodation of traffic and the maintenance of deviations shall be measured once only along the centre line of the road, irrespective of the type of work to be executed or the number of times necessary to accommodate traffic over any particular part of the road.

The limits for any particular section of road over which traffic has to be accommodated and deviations have to be maintained shall be the distance measured between the limits of construction of the particular section of road under consideration. Only the net distance of the road shall be measured and overlapping distance during staged rehabilitation shall not be measured."

Item **Unit**

B15.03 Temporary traffic-control facilities:

REPLACE THE DESCRIPTION OF SUBITEMS (g) AND (h) WITH THE FOLLOWING:

(g) Rectangular road signs, TGS-, TIN-, and TW-series (excluding TW-series delineators and barricades) square metre (m²)

(h) Delineators TW 401 or TW 402 (250 mm x 1 000 mm sides):

- (i) Single sided number
- (ii) Double sided number"

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

"Payment for the provision of temporary traffic-control facilities shall be paid for once only, irrespective of the type of work to be executed or the number of times that the temporary traffic-control facilities have to be moved and re-used."

ADD THE FOLLOWING SUBITEMS:

"(n) Other signs or facilities:

- (i) Provision of other signs or facilitiesprovisional (Prov) sum
- (ii) Handling costs and profit in respect of sub subitem B15.03(o)(i) percentage (%)"

ADD THE FOLLOWING AFTER THE PARAGRAPH FOR SUBITEM (m):

"(o) A Provisional Sum has been included in the Schedule of Quantities to allow for the supply and installation of any additional signs, reflective tape or other materials as instructed by the Employer's Agent and in accordance with clause B1503.

The tendered percentage is a percentage of the actual amount spent under subsubitem B15.03(o)(i), which shall include full compensation for the handling costs of the Contractor, and profit on the provision of other signs and facilities required by the Employer's Agent."

B6 SECTION B1600: OVERHAUL

B1602 DEFINITIONS

(a) Overhaul material

(iv) *Insert “selected layers” before “subbase” in the first line.*
Insert the following as a final paragraph

“Material procured from commercial sources shall not be regarded as overhaul material.”

b) Overhaul

Replace the sub-clause with:

“Regardless that the Standard Specification makes allowance for payment of restricted overhaul payment shall only be made for material hauled in excess of 1 kilometre. Overhaul shall be measured as the product of the volume of material hauled and the overhauled distance.”

d) Free-haul distance

Replace the last sentence with:

“This distance shall be 1 kilometre in the case of all overhaul materials and this specification shall be deemed to have replaced the ‘free-haul’ distance in all other sections of the standard specifications.”

B7 SECTION 1700: CLEARING AND GRUBBING

B1701 SCOPE

Add the following after "grubbing" in the first paragraph:

"including the demolishing and disposal of structures, shelters, dwellings and outbuildings within the new road reserve at a site provided by the Contractor and approved by the Employer's Agent."

B1702 DESCRIPTION OF WORK

Conservation of topsoil

Replace the second paragraph of this clause with the following:

"After clearing and grubbing, all topsoil shall be removed to either windrows alongside the construction area or to stockpile. Where ordered by the Employer's Agent, any topsoil that shall be required for the top soiling of new banks and cuts, but which cannot be accommodated within the construction site, shall be loaded and hauled to the designated stockpile area where it shall be placed in temporary stockpiles for later use in the rehabilitation of the site affected by construction activities. Where new borrow pits are to be opened up, the topsoil shall first be removed (independently of the overburden) and placed in temporary stockpiles at the edge of the borrow pit. The moving of topsoil from windrow or the loading of topsoil from temporary stockpiles and the placing and spreading thereof on cut or fill slopes or on borrow pit spoil sites, is covered in Section 5800."

Add the following subclauses:

(e) Clearing household refuse from the construction area

Where household refuse has been deposited within the construction area, it shall be removed to approved dumping sites provided by the Contractor."

B1703 EXECUTION OF WORK

Areas to be cleared and grubbed

Replace the first sentence of the first paragraph with the following:

"The portions of the road reserve falling within the limits of the road prism along temporary deviations/roads and certain borrow areas, shall be cleared and grubbed using conventional (non-labour-intensive) methods."

Delete "normally" in the second line of the second paragraph.

Replace the second sentence of the fourth paragraph with the following:

"A penalty of R5 000,00 shall be imposed for every tree which is unnecessarily removed or damaged."

B1704 MEASUREMENT AND PAYMENT

Add the following payment item:

Item	Unit
B17.01 Clearing and Grubbing	hectare(ha)

Add to Payment Item 17.01 the following:

The tendered rate shall also include full compensation for removal of existing fences, any prism pipe culvert inlet and outlet structures and kilometre marker posts as instructed by the Employer's Agent.

Clearing and grubbing for the construction of the campsite shall not be measured separately. Payment shall be regarded as included in the rates tendered for the applicable items for the above-mentioned work.

Within the road reserves clearing and grubbing will only be measured and paid for where required for road works. The area of the existing road will not be measured for clearing and grubbing.

Any topsoil removed in this process must be stockpiled in heaps not exceeding 1 m height for later use during rehabilitation and landscaping.

Item	Unit
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B17.08 Demolition, removal and disposal off site of miscellaneous structures consisting of:

- (a) Culvert structures (any type).....No
- (b) Concrete paving pedestrian sidewalk.....m²
- (c) Unreinforced concrete.....m³
- (d) Masonry and stone pitching.....m³
- (e) Reinforced concrete m³

The unit of measurement shall be the cubic metre of undesired concrete, masonry or stone pitching to be demolished, which includes all materials both above and below the ground level.

The tendered rate shall also include full compensation for all work necessary for the removing of all undesired concrete as directed by the Employer's Agent including the haulage and spoiling of all material from demolition activities to an approved landfill site. The contractor may sell demolition materials to offset haulage costs."

B8 SECTION B1800: DAYWORKS

B1801 SCOPE

This section covers the listing of daywork items in accordance with the general conditions of contract Subclause 6.5.1.1, for the use in determining payment for work which cannot be quantified in specific units in the Pricing Schedule, or work ordered by the Employer's Agent during the construction period which was not foreseen at tender stage and for which no applicable rate exists in the Pricing Schedule.

B1802 ORDERING OF DAYWORK

No daywork shall be undertaken unless written authorisation has been obtained from the Employer's Agent.

B1803 MEASUREMENT AND PAYMENT

Item	Unit
B18.01 Personnel during normal working hours:	
(a) Unskilled labour	hour
(b) Semi-skilled labour	hour
(c) Skilled labour	hour
(d) Ganger	hour
(e) Flagmen	hour
B18.02 Personnel outside normal working hours:	
(a) Outside normal working hours and on Saturdays:	
(i) Unskilled labour	hour
(ii) Semi-skilled labour	hour
(iii) Skilled labour	hour
(iv) Ganger	hour
(v) Flagmen	hour
(b) Sundays and public holidays:	
(i) Unskilled labour	hour
(ii) Semi-skilled labour	hour
(iii) Skilled labour	hour
(iv) Ganger	hour
(v) Flagmen	hour
B18.03 Equipment/Plant:	
(a) Front end loader, 2.0m ³ bucket	hour
(b) Backhoe loader, 55 - 70kw 0.75m ³ bucket	hour
(c) Compressor 7,0 cubic meter per minute and two jackhammers	hour

(d)	Grader, 14 000kg / 100kW	hour
(e)	Vibratory roller	hour
(e)	Grid roller, 10 000kg	hour
(f)	Tipper truck, 10 m ³	hour
(g)	Water dowser, 10 000 litre	hour
(h)	Concrete mixer	hour
(i)	Pedestrian roller, double drum- 650mm wide	hour

B18.04 Materials:

(a)	Procurement of materials	Prov Sum
(b)	Contractor's handling costs, profit and all other charges in respect of subitem B18.04(a)	%

B18.05 Transport:

(a)	LDV	km
(b)	Flatbed truck	km

The unit of measurement for items B18.01 and B18.02 shall be the hour for the item of equipment or personnel. Non-working hours for transport breakdown, lack of operator of any other reason shall not be measured. The time shall be taken from the time that the personnel and/or equipment depart until return.

Measurement shall only be for work instructed and directed by the Employer's Agent, where the Employer's Agent considers no other appropriate rate is applicable in the Pricing Schedule. Prior to the commencement of any work by the personnel described under item B18.01 and B18.02 the contractor must obtain written consent from the Employer's Agent regarding their classification in terms of "unskilled", semi-skilled" and "skilled" personnel.

The tendered rates for labour under B18.01 and B18.02 shall include full compensation to cover overhead charges and profit, leave pay, bonuses, subsistence, allowances, employer's contributions, additional payment for overtime where applicable, insurances, housing, site supervision, use of small hand tools and appliances, non -mechanical plant and equipment and consumable stores, for all administrative, supervisory, operative and contingent costs, relating to the supply of personnel.

The tendered rates for plant for item B18.03 shall be an all-inclusive hire charge for the use of the vehicle and driver or plant/equipment and operator and shall apply only to vehicles plant and equipment nominated in writing by the Employer's Agent, for all administrative, supervisory, operative and contingent cost, and profit relating to the running of the plant.

The unit of measurement for subitem B18.04(a) shall be the amounts actually paid for the procurement of materials to be purchased and shall be made in accordance with the provision of the general conditions of contract. Only the actual quantities of materials used, as verified by the Employer's Agent, shall be paid for.

The percentage tendered for subitem B18.04(b) shall be the percentage of the amounts actually paid for the procurement of materials as ordered under subitem B18.04 (a) and shall be in full and final compensation in respect of the contractor's handling costs, profit and all other charges in connection with the procurement and supply of the materials to the point of usage.

The unit of measurement for item B18.05 shall be the kilometre distance that the vehicle travelled for transporting personnel and/or plant. All travelling shall be approved by the Employer's Agent.

The tendered rate for item B18.05 shall include full compensation for the cost of the vehicle including fuel, maintenance depreciation and running costs.

The above-mentioned tendered rates shall be full compensation for the various items as specified and no further profit shall be paid.

B9 SECTION 2100: DRAINS

B2105: CLASSIFICATION OF MATERIALS

ADD THE FOLLOWING:

a) Hand Excavation

In order to safeguard existing services, structures, fixtures, appliances or other works, it may be necessary to preclude the use of mechanical excavators for the excavation of trenches in materials defined as soft material. Where ordered by the Engineer in writing, such excavation shall be carried out by hand and classified as hand excavation for payment purposes.

b) Hand excavation, no blasting

The Engineer may forbid the use of explosives for the excavation of trenches in material defined as hard material where the Contractor would normally have resorted to blasting. Where ordered by the Engineer in writing, such excavation shall be carried out by other means and classified as hard material, no blasting for payment purposes. Payment shall be made as an extra over for hand excavation as defined above.

c) Hard excavation

Hard excavation is excavation of material, excluding boulder excavation that is classed separately, which cannot be removed efficiently by the reference construction equipment specified in the Contract Documentation, and that will require other means of breaking up before removal by one of or a combination of the following:

- Drilling and blasting.
- Ripping with a bulldozer.
- An excavator fitted with a hydraulic percussion hammer or fitted with a ripper.
- Hand operated pneumatic or electro mechanical equipment such as jackhammers or pavement breakers.
- Drilling and using non-explosive rock-breaking products, such as injecting chemical expansion agents.

(d) No distinction shall be made between soft and intermediate excavation, and all intermediate excavation shall be classified and measured as soft excavation."

B2107: MEASUREMENT AND PAYMENT

ADD THE FOLLOWING PAYMENT ITEMS:

Item	Unit
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B21.01 Excavation for open drains:

(a) Excavating soft material situated within the following depth ranges below the surface level:	
(i) 0 m up to 1,5 m	m ³
(ii) Exceeding 1,5 m and up to 3,0 m	m ³
(ii) Exceeding 3,0 m and up to 4,5 m	m ³
(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³

The unit of measurement shall be the cubic metre of material excavated in accordance with the authorized dimensions, measured in place before excavation. Excavation for open drains only as defined in subclause 2102(b) shall be measured.

Irrespective of the total depth of the excavation, the quantity of material in each depth range shall be measured and paid for separately.

The tendered rates shall include full compensation for the excavation of the material to the required lines, levels and grades of the materials as directed, including free haul.

B10 SECTION B2200: PREFABRICATED CULVERTS

B2203 MATERIALS

Portal and rectangular prefabricated concrete culvert units

Replace this subclause with the following:

"Precast concrete units shall comply with the requirements of the latest SANS 986:2006 specification.

Prior to the manufacture of any units the manufacturer shall submit his quality plan to be approved by the Employer's Agent before delivery of any units to site. As part of the quality plan submitted for approval copies of calibration certificates of both gauges used for proof loads and cover meters used at the factory shall be supplied to the Employer's Agent. The originals of these certificates shall at all stages also be available for inspection at the factory premises. The manufacturer shall check each precast unit for cover compliance. Random checking of units shall not be permitted. The Employer's Agent's Representative may visit the factory at any stage to ascertain adherence to the quality plan, as well as to check covers before delivery to site. Any substandard cover shall result in the batch being rejected. If the manufacturer is not adhering to their quality plan, the Employer's Agent may exercise the right to reject the use of products from the manufacturer concerned. The Employer shall also be informed in all such cases.

For durability requirements: Due to the reduced cover provided for pre-cast culverts all durability testing shall be done in accordance with subclause B6404(h) and fall within the severe category. For units within the 5,0 km zone from the coast the very severe category shall be used, and increased cover shall be as specified by the Employer's Agent."

B2204 CONSTRUCTION METHODS

Replace the second paragraph with the following:

"Culverts shall generally be lengthened according to the 'embankment method'. The Contractor shall ensure that the existing drainage is maintained and any damage caused as a result of blocked culverts during construction shall be repaired at the Contractor's expense.

New culverts shall generally be constructed according to the 'embankment method' unless otherwise indicated on the drawings or directed by the Employer's Agent.

The bottom of the excavation for culverts that are to be replaced or lengthened shall be inspected by the Employer's Agent prior to the placing of the bedding material. If the material is found to be suitable, it shall be ripped to a depth of 150 mm below the bottom of bedding level and re-compacted to at least 93% of modified AASHTO density.

Where the material is found to be unsuitable, it shall be removed to a depth specified by the Employer's Agent and then replaced with G5 material compacted to at least 93% of modified AASHTO density in layers not exceeding 150 mm thickness."

B2207 UNSUITABLE FOUNDING CONDITIONS

Replace "... one diameter or span, as the case may be, ..." in the second paragraph with "...1,0 m ...".

B2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS

Portal and rectangular culverts

Placing the portal portions of culverts

ADD THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"The manufacturer's installation manual shall be followed with respect to the provision of a 10 mm gap between units and the staggering of portal joints and base joints."

B2211 BACKFILLING OF PREFABRICATED CULVERTS

REPLACE THE SECOND SENTENCE IN THE NINTH PARAGRAPH WITH THE FOLLOWING:

"The cement/soil mixture shall consist of cement and of an approved soil or gravel of subbase quality mixed in proportion of 1:12."

B2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES

REPLACE THE HEADING AND FIRST PARAGRAPH WITH THE FOLLOWING:

"B2212 INLET AND OUTLET STRUCTURES, CATCHPITS, MANHOLES AND SKEW-END PIECES FOR PORTAL AND RECTANGULAR CULVERTS

Inlet and outlet structures for prefabricated culverts, catchpits, manholes, and skew-end pieces for portal and rectangular culverts shall be constructed in accordance with the details on the drawings."

Excavation and backfilling

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The width of excavation shall be the net external dimensions of structure plus 0,8 m working space along or around the structure. The specifications given elsewhere in this section for backfilling the culverts shall apply mutatis mutandis to inlet and outlet structures, catchpits and manholes. If wet soilcrete is used with vibrators the extra working space shall be reduced to 150 mm."

ADD THE FOLLOWING SUBCLAUSES:

"(k) Building in pipework

Pipework shall be built into concrete as shown on the drawings. The pipework shall be set into exact position in the shutters before the concrete is placed and the concrete thoroughly compacted and worked around the pipework. Alternatively, at the discretion of the Employer's Agent and at no extra cost, unless specifically provided for in the Pricing Schedules, holes may be left or formed in the concrete into which the pipework shall be set, whereupon the space around the pipework shall be caulked with concrete having just sufficient water to ensure watertightness and thereafter the caulking shall be properly cured.

The joint between the old and fresh concrete shall be made in accordance with clause 6408: Construction joints.

Where pipes enter brickwork they shall be caulked into the wall and rendered with mortar.

Manholes for Telkom

Manholes required for Telkom shall be for jointing, pulling or for change of direction and shall be constructed in accordance with the details shown on the drawings. As these manholes generally finish somewhere in the layer works of the pavement, these layer works shall first be constructed to the level of the top of the manhole roof slab. Excavation for the manhole shall then be carried out as neatly as possible, the manhole constructed and the minimal backfill space filled with either soil cement for brick walls or combined with the concrete if the walls are concrete. Finally, once all structural concrete has attained its design strength, the overlying layer works and then the manhole shaft/opening shall be constructed so that the cover is completely flush with the adjacent asphalt surfacing.

The Contractor shall allow in his programme for a suitable delay in the layer works while the various Telkom manholes are being constructed."

B2214 JOINING NEW WORK TO OLD

ADD THE FOLLOWING AFTER THE LAST SENTENCE OF THE FIRST PARAGRAPH:

"Where existing pipe culverts are to be extended, the contact surface shall be cut and cleaned, as described in this clause, prior to joining new prefabricated culvert units with existing culverts. Such cutting is to be undertaken with electrical- or mechanical-driven equipment."

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:

"New prefabricated culvert units are to be joined onto existing culverts by means of a cast in situ concrete encasing (collar)."

B2215 SERVICE DUCTS

ADD NEW SUBCLAUSE HEADING BEFORE FIRST PARAGRAPH:

"(a) General"

REPLACE THE LAST PARAGRAPH WITH THE FOLLOWING:

"The end of each duct shall be marked with a 300 mm x 300 mm x 100 mm class 20/19 concrete marker block. A 200 mm x 100 mm galvanized steel or aluminium plate with the size, number and depth of pipes stamped on the surface shall be affixed to the top of the marker block. Each duct marker shall be at least 50 mm proud of the finished surface level."

INSERT THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"(v) HDPE Sleeve Pipes

HDPE sleeve pipes shall be:

Corrugated cable ducts complying with the requirements of SANS 61386-24 for sleeves to be laid in trenches.

HDPE pipes for drilling shall be manufactured from PE63 – PN4 and shall comply with the requirements of SANS 4427."

INSERT THE FOLLOWING AS A NEW FOURTH PARAGRAPH:

"Where drilling is required for installation of service ducts, a drilling pit shall be excavated on the one side of the road from where drilling is to be conducted. The pit shall be of adequate size to permit free standing of the operator and drilling equipment. On the other side of the road, a receiving pit is to be excavated. Both pits shall be backfilled after completion of the drilling, using the excavated material compacted in 150 mm layers to a minimum density of 93% of modified AASHTO. Drilling shall be carried out from the one side of the road in positions and to levels as shown on the drawings and/or as instructed by the Employer's Agent. The hole shall be of adequate size to accommodate the required service duct. The permissible deviation in level of the hole between the two (2) sides of the road shall not exceed 500 mm. The service duct shall be installed through the drilled hole and shall be extended to above ground."

ADD THE FOLLOWING AT THE END OF THE PENULTIMATE PARAGRAPH:

"Before closing, all sleeves or ducts shall be proved as specified in subclause B2104(b)(v)."

ADD THE FOLLOWING TO THE SEVENTH PARAGRAPH:

"The Telkom uPVC ducts for the optical fibre cable are required to be placed in special bedding, padding and backfilling as specified in clause B2219."

ADD THE FOLLOWING SUBCLAUSE:

Drilling of sleeves underneath roads

A drilling pit shall be excavated on the one side of the road from where drilling is to be conducted. The pit shall be of adequate size to permit free standing of the operator and drilling equipment. On the other side of the road, a receiving pit is to be excavated. Both pits shall be backfilled after completion of the drilling, using the excavated material compacted in 150 mm layers to a minimum density of 90% of modified AASHTO.

Drilling shall be carried out from the one side of the road in positions and to levels as indicated on the plans and/or as instructed by the Employer's Agent. The hole shall be of adequate size to accommodate the

required sleeve. The permissible deviation in level of the hole between the two (2) sides of the road shall not exceed 500 mm.

The sleeve shall be installed through the drilled hole and shall be extended to above ground. A 3,15 mm galvanized draw wire shall be installed through the sleeve and the sleeve ends shall be blocked temporarily."

ADD THE FOLLOWING NEW CLAUSE:

"B2219 TELKOM DUCTS FOR OPTICAL CABLES

This clause specifies the characteristics, testing and installation of bedding, padding and backfilling material for Telkom uPVC ducts.

The following conditions apply:

Bedding: The material constituting the even floor of an excavated trench onto which a pipe or a bank of pipes is/are laid; either undisturbed in situ material or an imported layer of suitable material as specified hereinafter.

Padding: The material installed around and/or between pipes up to a level of at least 150 mm above the pipe or bank of pipes: The padding material must be 150 mm below and to the sides of ducts.

Backfilling: The material installed above the padding material layer to complete the refilling of an excavated trench.

Bedding, padding and backfill material shall be installed with a moisture content as near to optimum as possible to ensure that optimum compaction is achieved. The Employer's Agent may, if he considers it necessary, direct the Contractor to carry out tests, which the Employer's Agent shall specify, to determine the optimum and actual moisture content of any material being used. Should the results of such tests require it, the Employer's Agent may direct the Contractor to add water to material which is too dry or to dispose of material which is too moist or to import suitable material.

Under no circumstances shall material which is saturated with water, be used for bedding, padding and backfill.

The Contractor shall pay particular attention to the proper compaction of bedding, padding and backfill material.

A higher standard of compaction effort will be insisted upon in all cases where fine materials are approved as bedding and padding.

The bedding shall cover the full width of the trench in a uniform layer of the required thickness and shall be compacted by means of one pass by a vibratory plate compactor.

Care must be taken to ensure that the ducts are completely surrounded by the padding material.

On completion of the placement of the padding material, the top surface shall be compacted by means of one pass by a vibratory plate compactor.

The compaction of backfill shall be by means of a vibratory plate compactor.

During the compaction of padding and backfill material, the Contractor shall exercise due care to ensure that pipes and pipe joints are not disturbed or damaged in any way.

The material to be used for the bedding and padding shall be coarse-grade crushed stone as specified in subclause 2104(a) of the standard specifications.

The crushed stone shall be graded crushed stone conforming to the following grading requirements:

Sieve size	% passing
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28 mm	100%
14 mm	60% to 85%
7,0 mm	minimum 15%
2,0 mm	maximum 15%

Note: The following items will be supplied by Telkom and delivered to site:

uPVC pipes

copper earth conductor wires

danger tape conductor

The Contractor must inform Telkom at least three (3) weeks before the pipes are required for installation.

Where directed by the Employer's Agent, copper earth conductors shall be installed. Joints in conductors shall be by means of approved clamps.

Where indicated on the drawings, ducts shall be protected with precast concrete slabs."

B2218 MEASUREMENT AND PAYMENT

Item	Unit
B22.01 Excavation:	m³

REPLACE THE FIFTH PARAGRAPH WITH THE FOLLOWING:

"The tendered rates shall include full compensation for all excavation, temporary timbering, shoring and shutting for preparing the bottom of the excavation for the culvert beds, including proof rolling, the disposal of excavated material unsuitable for backfilling, keeping excavations safe, dealing with surface or subsurface water, and for any other operations necessary for completing the work as specified."

ADD THE FOLLOWING SUB-ITEM:

Item	Unit
B22.01 (c) Extra-over sub-item 22.01(a) for excavation by hand	m ³

The unit of measurement shall be the cubic metre of material excavated by means of labour using hand tools only. This item shall only apply where the dimensions of the area to be excavated are such as to render excavation by machinery impractical and where the engineer has specifically ordered or authorised excavation by hand. This item shall not apply where machine excavation would have been possible but the contractor chooses to use hand excavation instead.

The tendered extra-over rate shall include full compensation for all additional costs in excavating the material using hand held tools."

Item	Unit
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B22.03 Concrete pipe culverts

ADD THE FOLLOWING TO THE FOURTH PARAGRAPH:

"The standard length of a concrete pipe is 2,44 m."

REPLACE PAYMENT ITEM 22.26 WITH THE FOLLOWING:

Item	Unit
B22.13 Removing and re-laying existing pipe (600mm and type C bedding)	m

The tendered rate shall include full compensation for removing and re-laying existing pipe and also providing all labour, constructional plant and materials required, for all excavation, breaking into existing drainage structures, building into the newly formed accesses, sealing around the edges and making the joints watertight, breaking out existing benching and channelling where required and reconstructing them complete with granolithic rendering to suit the new drainage arrangement, backfilling and compacting to at least 93% of modified AASHTO density and dealing with the flows in the existing structures.

Item	Unit
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B22.29	Breaking into prefabricated culvert and connecting concrete pipes of the following size:	
(a)	450 mm dia	number
(b)	600 mm dia	number
(c)	750 mm dia	number
(d)	900 mm dia	number

(e) 1050 mm dia	number
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The unit of measurement for sub-items (a), (b), (c), (d) and (e) above, shall be the complete unit as shown on the drawings all works necessary for breaking into or connecting into existing prefabricated culvert.

The tendered rate shall include full compensation for procuring, providing and installation of materials but shall exclude excavation which shall be measured under the appropriate items of payment of this section.

Item	Unit
B22.30 Breaking into prefabricated culvert to construct new drainage structures such as grid inlets for the following sizes:	
(a) DETAILS	Manhole complete as per drawing Typical Details: CULVERT CHAMBER number

The unit of measurement for sub-items (a), (b) and (c) above, shall be the complete unit as shown on the drawings all works necessary for breaking into or connecting into existing prefabricated culvert.

The tendered rate shall include full compensation for procuring, providing and installation of materials but shall exclude excavation which shall be measured under the appropriate items of payment of this section.

B11 SECTION B2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPipes, AND CONCRETE LININGS FOR OPEN DRAINS

B2302 MATERIALS

Kerbing and channelling

ADD THE FOLLOWING AFTER THE FIRST SENTENCE:

"Irrespective of the minimum transverse strength specified in SANS 927, all concrete shall be of class 30/19."

Joint sealant

DELETE THE THIRD PARAGRAPH AND SUBSTITUTE WITH THE FOLLOWING:

"(iii) Silicone-based joint sealants shall comply with the requirements of subclauses 7102(e)(iii) and 7102(e)(iv)."

B2304 CONSTRUCTION

Excavation and preparation of bedding

REPLACE THE HEADING OF SUBCLAUSE B2304(A)(I) WITH THE FOLLOWING:

"(i) Kerbs, channels and edge beams"

Prefabricated concrete kerbing and channelling

ADD THE FOLLOWING:

"A 10 mm wide joint formed in inert filler shall be provided every 20 m through the kerbing and channelling. The colour of the filler shall match the colour of the kerbing."

Curved kerbing of radius less than 1,0 m shall be cast in situ. Units for curved kerbing of radius greater than 1,0 m up to 4,0 m shall be of nominal length 0,3 m. Units for curved kerbing of radius greater than 4,0 m up to 20 m shall be of nominal length 0,5 m. Units for radius exceeding 20 m shall be of nominal length 1,0 m. Any associated channelling shall also comply with the above requirements."

Cast in situ kerbs and channels

ADD THE FOLLOWING:

"Cast in situ kerbs, channels and edge beams shall be provided with a contraction joint every 2,0 m and an expansion joint every 20 m. The contact area of the contraction joint shall be painted with two (2) coats of bitumen. Alternatively, joints may be cut and finished to a depth of 50 mm. The expansion joint shall consist of 12 mm thick Flexcell or an approved equivalent placed between adjoining concrete sections. The top part of the joint shall be sealed with a 12 mm x 12 mm silicone sealant. All joints shall be provided for the full depth of the concrete."

Concrete-lined open drains

ADD THE FOLLOWING:

"When instructed by the Employer's Agent, the surfaces on which concrete lining is to be cast shall be sprayed with invert bituminous emulsion as soon as possible after the excavations have been trimmed. The sprayed surfaces shall be maintained until the concrete lining is cast. The nominal rate of application of the emulsion shall be 0,5 litre/m² unless otherwise instructed by the Employer's Agent. The tolerance in the rate of application shall be ± 5% of the specified rate."

Construction sequence

ADD THE FOLLOWING:

"(iv) Where concrete edge beams are constructed at intersection areas and access points.

The specifications for subclauses B2304(a)(i), B2304(a)(ii) and B2304(a)(iii) shall apply mutatis mutandis to edge beams."

Cutting existing bituminous surfacing and pavement layers

REPLACE THE PARAGRAPH WITH THE FOLLOWING:

"Where the Employer's Agent instructs kerbing, edge beams, channelling or concrete-lined drains to be constructed against existing bituminous surfacing and pavement layers, the full depth of the bituminous surfacing and pavement layers shall be accurately cut with a mechanical saw to the required line and level before the kerbing, edge beams, channelling or concrete-lined drain is constructed. The cut edge shall be vertical for kerbing, edge beams, concrete-lined drains and channelling. The concrete shall be placed directly against the cut edge without formwork. All material outside the cut edge shall be removed to the required depth before the concrete is placed, and the debris shall be disposed of at approved dumping sites provided by the Contractor. The bituminous surfacing shall be protected and kept clean to the Employer's Agent's satisfaction."

RDP1(E) ADD THE FOLLOWING SUBCLAUSES:

"(I) Demolition of existing concrete-lined drains, kerbs and channels

Where shown on the drawings and/or indicated by the Employer's Agent, the existing kerb and channel and concrete-lined drains shall be demolished to a specified maximum size, removed and transported to an approved site as provided by the Contractor."

B2307 MEASUREMENT AND PAYMENT

REPLACE THE DESCRIPTION OF PAYMENT ITEM 23.01 WITH THE FOLLOWING:

Item	Unit
B23.01 Concrete kerbing, including joints (class of concrete indicated for <i>in situ</i> concrete)	metre (m)

ADD THE FOLLOWING TO THE PAYMENT PARAGRAPH:

"The tendered rates shall also include full compensation for the construction of expansion and contraction joints as specified."

"Item	Unit
B23.16 Removing existing kerbing.....	metre (m)

The tendered rate shall also include full compensation for all work necessary for the removing of all undesired concrete as directed by the Employer's Agent including the haulage and spoiling of all material from demolition activities to an approved landfill site. The contractor may sell demolition materials to offset haulage costs."

The tendered rate shall also include full compensation for all work necessary for the removing of all undesired kerbs as directed by the Employer's Agent including the haulage and spoiling of all material from demolition activities to an approved landfill site. The contractor may sell demolition materials to offset haulage costs."

B12 SECTION 3100: BORROW MATERIALS

B3103 OBTAINING BORROW MATERIALS

ADD THE FOLLOWING PARAGRAPH:

"The contractor shall adhere to the requirements within the environmental management plan for the preparation of the area to be utilised as a borrow pit. This shall include the removal and storage of the topsoil within the affected area, maintenance of the area during use and the rehabilitation of the area to its natural state on completion. A photographic record shall be kept of all borrow pit areas. Any construction material spoiled within these sites shall be buried to a depth of no less than 300mm below the surface soil. No construction material of any nature shall be left visible after topsoiling. The Engineer shall confirm this before grassing commences. The area shall be kept free of all undesirable plant material."

a) General

ADD THE FOLLOWING:

"The acquisition and compensation for land from which borrow material is obtained shall be negotiated and paid for by the employer."

c) Use of borrow materials

Delete the last sentence of the second paragraph and replace with the following:

"Compensation to owners and arrangements with owners for taking material from alternative borrow pits proposed by the contractor shall be the contractor's responsibility and entirely at his own expense and risk. Such borrow pits may be accepted by the engineer only if the material complies in all respects with the specifications, it is the best economic alternative and the contractor can provide proof of compliance with all relevant legislation."

ADD THE FOLLOWING NEW PARAGRAPHS TO THE END OF THIS SUB-CLAUSE:

"The engineer shall instruct the contractor as to the applicable usage of borrow pits always employing the best economic alternative (lowest cost in terms of tendered rates) taking cognizance of the following:

- Quality of material;
- Haulage distance;
- Hardness of material;
- Overburden.

Under no circumstances shall the contractor be entitled to any additional compensation in respect of any instruction by the engineer as to the usage of borrow pit material."

3108: MEASUREMENT AND PAYMENT

Item	Unit
B31.01 Excess overburden	m³

Delete the word "stripping" in the 1st sentence of the 2nd paragraph under the payment description as payment for this item of work is covered under payment items 17.01 and B17.07(c)

B13 SECTION B3300:MASS EARTHWORKS

B3302 MATERIALS

b) Fill

Compaction requirements, minimum in situ dry density

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:

"All fills shall be compacted to 93% of modified AASHTO density, unless otherwise specified by the Employer's Agent."

ADD THE FOLLOWING TO SUBCLAUSE B3302(B)(IV):

"The maximum swell at 100% of modified AASHTO compaction shall not be more than 2%."

B3303 CLASSIFICATION OF CUT AND BORROW EXCAVATION

a) Classes of excavation

Intermediate excavation

REPLACE THE PARAGRAPH WITH THE FOLLOWING:

"No distinction shall be made between soft and intermediate excavation, and all intermediate excavation shall be classified and measured as soft excavation."

Hard excavation

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

Hard excavation is excavation of material, excluding boulder excavation that is classed separately, which cannot be removed efficiently by the reference construction equipment specified in the Contract Documentation, and that will require other means of breaking up before removal by one of or a combination of the following:

- Drilling and blasting.
- Ripping with a bulldozer.
- An excavator fitted with a hydraulic percussion hammer or fitted with a ripper.
- Hand operated pneumatic or electro mechanical equipment such as jackhammers or pavement breakers.
- Drilling and using non-explosive rock-breaking products, such as injecting chemical expansion agents.

B3306 CUT AND BORROW

Borrow

REPLACE THE FIRST SENTENCE OF THE SECOND PARAGRAPH OF THIS SUBCLAUSE WITH THE FOLLOWING:

"Where insufficient material is available for fill from open drain excavations, material will be imported from commercial sources, designated borrow pits or Employer-identified sources. The Contractor shall use only material that conforms to specification."

The temporary stockpiling of materials

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The Contractor shall plan his activities in such a manner so that materials excavated from borrow areas and cuttings can be directly transported to and placed at the designated points.

The temporary stockpiling of material will not be paid for separately unless instructed by the Employer's Agent. Full compensation will be deemed to have been included in the rates tendered for the various payment items for work for which the stockpiled material is to be used."

B3308 FINISHING THE SLOPES

General

ADD THE FOLLOWING:

"Where existing slopes are excessively eroded or where slippages occurred in slopes, the slopes are to be reinstated by backfilling with suitable gravel material. All loose material and vegetation shall first be removed from the eroded slopes before backfilling may commence from the bottom of the cut or fill. The backfill material shall be benched into the existing slopes and compacted to 93% of modified AASHTO density, utilising suitable small compaction equipment, e.g. Bomag walk-behind rollers or handheld compaction tools. Benching shall be executed to the dimensions shown on the drawings. Upon completion of the backfilling operation the cut and fill slopes shall be neatly finished as specified."

B3310 CONSTRUCTION TOLERANCES

Levels

The level tolerances referred to in clauses 8205 and 8305 shall be as follows for all fill layers:

$$\begin{aligned} H_{90} &= 22 \text{ mm} \\ H_{\max} &= 30 \text{ mm} \end{aligned}$$

ADD THE FOLLOWING SUBCLAUSE:

"(c) Layer thicknesses

The thickness tolerances referred to in clauses 8205 and 8305 for the 150 mm to 200 mm natural gravel fill layer compacted to 93% of modified AASHTO density, shall be as follows:

	D_{90}	D_{\max}	D_{average}
Fill layer	30 mm	40 mm	10 mm"

B3312 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING SENTENCE:

"No additional or extra over payment will be made for work in restricted or confined areas."

AMEND THE DESCRIPTION OF PAYMENT ITEM 33.01 AS FOLLOWS:

Item	Units
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B33.01 Cut and borrow to fill, including 1 km free haul".....m³

REPLACE THE FIFTH MEASUREMENT AND PAYMENT PARAGRAPH WITH THE FOLLOWING:

"The tendered rates shall include full compensation for procuring, furnishing and placing the material, including excavating as if in soft excavation, the cutting of benches, the transporting of material for the entire

haul distance, for the preparing, processing, shaping, watering, mixing, and compacting of the materials to the densities or in the manner specified herein, and for removing and disposing of up to 5% oversize material from the road after processing, including all haul."

ADD THE FOLLOWING PARAGRAPH AFTER PARAGRAPH 5

The tendered rate shall include the extra over rates applying to excavation in intermediate excavation in item 33.01 and shall include full compensation for additional costs to excavate and break down the various classes of material, including the cost of all the necessary additional effort, plant, tools, materials, labour and supervision.

Item				Units
B33.10	Roadbed preparation and the compaction of materials:			
	(b)	Compaction to 93% of modified AASHTO density		
		(i) Gravel subbase G5 (unstabilized material) compacted to 93% of modified AASHTO density for a compacted layer thickness of 150 mm		m ³
		(ii) Gravel subbase (chemically stabilized material) compacted to 93% of modified AASHTO density for a compacted layer thickness of 150 mm (C3)		m ³

REPLACE THE PAYMENT PARAGRAPH WITH THE FOLLOWING:

The unit of measurement shall be the cubic metre of compacted pavement layer constructed with material obtained from commercial sources or approved sources provided by the Contractor. It will be compacted as specified in subitem B33.10(b) (i) and (ii) and also shown on the drawing below the culvert blinding layer.

The tendered rates shall include full compensation for procuring, furnishing, placing, spreading, mixing imported and in situ material if required, breaking down, shaping, watering, preparing and compacting the material, for hauling the material over an unlimited free-haul distance from the source to the point of use, for protecting and maintaining the layer and for conducting control tests, all as specified. The tendered rates shall include full compensation for blading all oversize material off the canal into windrows, for loading and transporting the material for an unlimited free-haul distance to approved dumping sites provided by the Contractor, and for off-loading and spreading the material, all as specified

No overhaul shall be payable on any material obtained from commercial sources.

B14 SECTION B3400: PAVEMENT LAYERS OF GRAVEL MATERIAL

B3402 MATERIALS

General

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"Gravel material shall be obtained from approved commercial sources or approved sources provided by the Contractor."

Replace "and 3402/4" in the third line of the second paragraph with ", 3402/4 and 3402/5".

ADD THE FOLLOWING AFTER THE SECOND PARAGRAPH:

"The wet-dry durability (Table 3402/5) limits for subbase if tested according to TMH1 Method A19, but using samples as prepared for the modified AASHTO method, shall be as follows:

C3: 20% maximum (modified AASHTO density briquettes)

C4: 30% maximum (modified AASHTO density briquettes)"

REPLACE THE GRADING SECTION IN TABLE 3402/1 WITH:

GRADING	NOMINAL APERTURE SIZE OF SIEVE (mm)	PERCENTAGE PASSING THROUGH SIEVE BY MASS		The percentage by mass passing the 2,0 mm sieve shall not be less than 20% not more than 70%	
		CRUSHED MATERIAL			
		NOMINAL MAX. SIZE			
		37,5 mm	28 mm		
53				100	
50				95 - 100	
37,5	100			85 - 100	
28	86 - 95				
20	73 - 86	87 - 96	61 - 91		
14	61 - 76	73 - 86			
5	37 - 54	43 - 61	31 - 66		
2	23 - 40	27 - 45	20 - 50		
0,425	11 - 24	13 - 27	10 - 30		
0,075	4 - 12	5 - 12	5 - 15		

Note:

Refer to standard COLTO table for COLTO grading if required."

REPLACE TABLE 3402/5 WITH:

"TABLE B3402/5: REQUIREMENTS FOR CHEMICALLY STABILIZED LAYERS

CLASSIFICATION	C1	C2	C3	C4
Material before treatment	At least Type G2 quality	At least Type G4 quality	At least Type G5 quality	At least Type G5 quality
PI after treatment	Non-plastic	Non-plastic	6 max. ⁽¹⁾	6 max. ⁽¹⁾
UCS (MPa) ⁽²⁾	6 min.	4 min.	1,5 min.	0,75 min.
ITS (kPa) ⁽³⁾	-	-	250 min.	200 min.
WDD (% loss) ⁽⁴⁾	5 max.	10 max.	20 max.	30 max.

Note:

For materials derived from the basic crystalline rock group, the plasticity index after stabilization shall be non-plastic.

Unconfined compressive strength at 100% of modified AASHTO density

Indirect tensile strength at 100% of modified AASHTO density

Wet-dry durability according to Method B8110"

Compaction requirements

Change the compaction requirements for stabilized subbases to read as follows:

"96% and 97% as required for lower subbase and upper subbase respectively, for chemically stabilized material."

ADD THE FOLLOWING SUBCLAUSE:

(d) Material requirements

When the values listed in Tables 3402/1, 3402/2, 3402/3 and 3402/4 cannot be attained with the type and quantity of stabilizing agent specified in Section 3500 in the project specifications and on the borrow-pit plans, the Employer's Agent will authorise the Contractor to vary and/or amend the quantity and possibly also the type of stabilizing agent in order to obtain the required values."

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

"Test results and measurements will be assessed in accordance with the provisions of Section 8200."

B3407 MEASUREMENT AND PAYMENT

DELETE THE FIRST PARAGRAPH AND REPLACE IT WITH THE FOLLOWING:

"No additional or extra over payment will be made for work in restricted or confined areas."

B34.06 Extra over item 34.04 for adding extra material as specified in subclause 3207(b)(iii)

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING

The tendered rate shall include full compensation for procuring and adding the material to the insitu broken down pavement layer including temporary blading to windrow, stockpiling, excavating material in existing

pavement layers (including in restricted areas), placing and compacting of gravel. The tendered rate shall include full compensation for all costs for placing and compacting the material in restricted areas.

ADD THE FOLLOWING PAYMENT ITEMS:

"Item	Unit
-------	------

B34.14 Pavement layers constructed from gravel obtained from commercial sources, including procurement, cost of material and all haul:

(a)	Gravel selected layer G7 compacted to:	
	(i) 93% of modified AASHTO density for a compacted layer thickness of 200 mm	m^3
(b)	Gravel subbase G5 (unstabilized material) compacted to (NMT):	
	(i) 95% of modified AASHTO density for a compacted layer thickness of 150 mm	m^3

The unit of measurement shall be the cubic metre of compacted pavement layer constructed with material obtained from commercial sources or approved sources provided by the Contractor, the quantity of which shall be calculated in accordance with the authorised dimensions of each separate completed layer by the method of average end areas from levelled cross-sections prepared from the ground line prior to the construction of new pavement layers, and the final specified or authorised layer cross-section superimposed at 20 m intervals along the centre line of the road.

The tendered rates shall include full compensation for the costs of negotiations and payments of royalties, for procuring, furnishing, placing, spreading, mixing imported and in situ material if required, breaking down, shaping, watering, preparing and compacting the material, for hauling the material over an unlimited free-haul distance from the source to the point of use, for protecting and maintaining the layer and for conducting control tests, all as specified. The tendered rates shall include full compensation for blading all oversize material off the road into windrows, for loading and transporting the material for an unlimited free-haul distance to approved dumping sites provided by the Contractor, and for off-loading and spreading the material, all as specified

No over haul shall be payable on any material obtained from commercial sources.

B15 SECTION B3500: STABILIZATION

B3501 SCOPE

ADD THE FOLLOWING PARAGRAPH:

"The Contractor shall take and submit samples of materials and/or mixtures to the Employer's Agent who must approve the stabilization mix designs before construction work can commence."

B3502 MATERIALS

ADD THE FOLLOWING:

"The stabilizing agent shall be Class CEM II A-S cement conforming to SANS 50197-1, or as directed by the Employer's Agent. The nominal rate of application for tender purposes as a percentage of the mass of the material to be stabilized and compacted to the required modified AASHTO density shall be as follows:

Upper subbase: 2,0%

Lower subbase: 2,0%

The Employer's Agent may instruct the Contractor to amend the percentage and possibly the type of stabilizing agent if necessary, after tests on the Site during construction.

Enough stabilizer should be added, over and above the design value, to allow for wastage during too high pre-shaping levels and inaccuracies during the spreading operation."

B3503 CHEMICAL STABILIZATION

Preparing the layer

INSERT THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"Moisture content tests shall not be undertaken more than one (1) day in advance of in situ stabilization operations. Care shall be taken to ensure that samples are representative of the in-situ material. Checks shall be conducted when wet weather occurs between initial testing and work commencing on any section."

ADD THE FOLLOWING:

"The material to be stabilized shall be spread and pre-shaped, so that a true cross fall is obtained. The upper level of the spread material shall be such that any indentations and depressions caused by construction equipment shall be above or at final cutting level. Enough extra material must be allowed for, so that no filling whatsoever is carried out. The final operation on the base prior to final compaction will be cutting and never making up of levels."

Applying the stabilizing agent

ADD THE FOLLOWING TO THE FIRST PARAGRAPH:

"The Contractor's spreading method must be submitted to and approved by the Employer's Agent before any spreading can take place."

REPLACE THE SECOND SENTENCE OF THE SECOND PARAGRAPH WITH THE FOLLOWING:

"Spreading shall only commence when the Employer's Agent is satisfied that the correct quantity of stabilizing agent has been placed on the layer and has given permission that the stabilizing agent may be spread uniformly over the entire surface to be treated."

Curing the stabilized work

ADD THE FOLLOWING TO SUBCLAUSE 3503(H)(II):

"The covering material shall be placed by end-tipping, and compaction of this covering layer shall be delayed until the underlaying layer has cured for seven (7) days."

ADD THE FOLLOWING SUBCLAUSES:

"(j) General

The Contractor shall at all times supply all workers exposed to chemical stabilizing or modifying agents with approved protective apparel, eyewear and masks. No person without such apparel, eyewear and masks may be permitted to work with or be exposed to the chemical agents. Precautionary measures shall also be taken to ensure that any livestock and the public will not be exposed to the chemical agents, for instance when they are carried by the wind.

Any biscuit layers or bowls, identified by the hollow sound caused when a chain is dragged over the stabilized layer, shall be removed and repaired prior to surfacing. The repairs shall be for the account of the Contractor. Before surfacing is allowed, ball penetration tests shall be carried out.

Stabilization agent application rate

At least three (3) weeks before start of stabilization the Contractor shall submit samples of proposed subbase material and stabilization agent for the Employer's Agent's approval and strength design testing. Testing will be undertaken at the Contractor's expense in order to determine the optimal application rate to achieve the specified strength.

Rejection

A stabilized layer that has failed or has been rejected shall be removed and reconstructed with fresh material."

B3509 QUALITY OF MATERIALS AND WORKMANSHIP

Replace the second paragraph with the following:

"Test results and measurements will be assessed in accordance with the provisions of Section 8200."

B3513 PROTECTION AND MAINTENANCE

Trafficking the completed layer

Cementitious stabilization

Under no circumstance shall traffic be allowed to travel on layers of cement stabilized material.

B3515 PLANT AND EQUIPMENT

Sufficient watering, mixing and compacting plant and equipment in good working order shall be provided to ensure that the specified quantities of water and stabilizing agent can be mixed in and the required degree of compaction obtained within the working periods specified in subclause B3505(g)."

B3510 MEASUREMENT AND PAYMENT

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"No additional or extra over payment shall be made for stabilization work in restricted or confined areas."

Item

B35.01 Chemical stabilization (extra over untreated layers)

REPLACE THE FIRST PARAGRAPH WITH THE FOLLOWING:

"The unit of measurement shall be the cubic metre of stabilized material, the quantity of which shall be determined in accordance with the final in situ authorised dimensions of the layers treated as instructed by the Employer's Agent. Additional material pre-shaped to allow for finishing by cutting only will not be included in the measurement."

ADD THE FOLLOWING TO THE PAYMENT PARAGRAPH:

"The tendered rate shall also include full compensation for working in restricted areas on top of and alongside culverts where necessary."

Item

B35.02 Chemical stabilizing agent

REPLACE THE FULL STOP AT THE END OF THE THIRD PARAGRAPH WITH THE FOLLOWING:

"and layer dimensions."

Replace the third paragraph with the following:

"Subject to the provisions of clause 1220, the quantity of stabilizer will be determined in accordance with the authorised rate of application and layer dimensions. Extra stabilizer added for wastage and higher pre-shaping levels will not be included in the quantity."

B16 SECTION B3800: BREAKING UP EXISTING PAVEMENT LAYERS

B3807 MEASUREMENT AND PAYMENT

Overhaul

DELETE AND REPLACE WITH THE FOLLOWING:

"No overhaul shall be paid on material originating from the milling of the existing asphalt layers, irrespective of whether the Contractor intends to utilise the material for recycling or reworking or whether the material is transported to a dump site. The Contractor shall include for overhaul in the rates tendered.

No additional or extra over payment shall be made for excavating existing pavement materials in restricted or confined areas."

DELETE SUBCLAUSE 3807(C) AND REPLACE WITH THE FOLLOWING:

"(c) No additional or extra payment shall be made for work in restricted or confined areas."

B17 SECTION B4100: PRIME COAT

B4102 MATERIALS

Priming material

ADD THE FOLLOWING:

"The Contractor shall note that no tar-based products shall be permitted on this Contract.

The prime coat shall be MC-30 cut-back bitumen."

Aggregate for blinding

ADD THE FOLLOWING:

"Blinding of the primed surface with aggregate shall only be permitted to facilitate vehicular access to adjoining properties."

B4103 EQUIPMENT

ADD THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"Before any storage, dilution or spraying operations commence, the Contractor has to provide a safety and security and environmental protection method statement for approval of the Employer's Agent. All personnel involved, including brooming, prime distributor, storage and production yard operators and labour, shall wear the necessary protective clothing. Appropriate fire extinguishers and medical aid devices must be in working order. The Employer's Agent reserves the right to stop the Contractor's operation or order any person from the Site who does not adhere to the above."

B4104 WEATHER AND OTHER LIMITATIONS

REPLACE SUBCLAUSE B4104(G) WITH THE FOLLOWING:

- "(g) when any position within the layer the moisture content of a crushed-stone base determined according to TMH1 Method A7 is more than 50% of the optimum moisture content. In the event of rain after priming, the base shall be allowed to dry out to meet the above moisture content requirement prior to surfacing."

B4106 APPLICATION OF THE PRIME COAT

ADD THE FOLLOWING TO SUBCLAUSE B4106(B):

"The temperature for storage and spraying of prime coat shall be in accordance with the supplier's specification."

ADD THE FOLLOWING TO SUBCLAUSE B4106(C):

"The nominal application rate of the prime shall be 0,7 litre/m². Unless directed otherwise by the Employer's Agent or indicated on the drawings, the width of the primed surface shall be 150 mm wider than the edges of the surfacing on each side."

B4108 TOLERANCES

ADD THE FOLLOWING TO THIS CLAUSE:

"Any unauthorised increase outside these limits shall not be paid for. However, the Employer's Agent shall have the right to instruct the Contractor to make up any deficiency or blind any over-application of prime without additional payment. If under-spraying occurs and it is accepted by the Employer's Agent, only the actual quantities applied shall be paid for."

B4109 TESTING

ADD THE FOLLOWING:

"No payment shall be made if this condition is not adhered to. The Contractor shall provide, at his own cost, representative samples of every batch of prime delivered onto site."

B18 SECTION B4200: ASPHALT BASE AND SURFACING

B4202 MATERIALS

Bituminous binders

Conventional binders

ADD THE FOLLOWING:

"The binders to be used shall be as follows:

Continuously graded surfacing course: 50/70 penetration grade bitumen."

Aggregates

ADD THE FOLLOWING PARAGRAPH TO THE INTRODUCTORY DESCRIPTION:

"Asphalt mixes shall be manufactured using different individual single size coarse aggregates fractions and crushed fine aggregates blended to conform to the specified grading requirements. The use of natural sands shall only be permitted if approved by the Employer's Agent and shall be limited to a maximum of 5% for continuously graded mixes. All aggregate in excess of 5mm shall consist of individual nominal single sized aggregate. For stone mastic asphalt mixes all aggregate fractions in excess of 2 mm shall consist of individual single size fractions. The Contractor shall note that commercial suppliers may not be able to supply all the required single size aggregates, in which instance arrangements will have to be made for additional on-site screening. No additional payment shall be made for screening aggregate. The use of run of crusher type materials shall not be permitted."

Absorption

ADD THE FOLLOWING SENTENCE:

"In addition, the total binder absorption of the combined coarse and fine aggregate blend shall not exceed 0,5%"

Grading

Delete the second paragraph commencing with "The target grading..." and add the following paragraph:

"The grading limits for the combined aggregate grading for the asphalt surfacing shall be as specified in table 4202/7: Continuously graded medium grade."

Rolled-in chippings

REPLACE TABLE 4202/11 WITH:

"TABLE B4202/11

Sieve size (mm)	Chip size - Percentage passing by mass	
	20 mm	14 mm
20,0	100	
14,0	0 – 20	100
10,0	0 – 5	0 – 20
7	0 – 1	0 – 5
0,425	0,5 max	0,5 max

Note:

Refer to standard COLTO table for COLTO grading if required"

ADD THE FOLLOWING NEW SUB-ITEM:

"(xi) Moisture content

The moisture content of aggregates, sampled from the cold feed belt, shall not exceed the following limits at the time that it is introduced into the mix:

- Coarse aggregate 2%
- Fine aggregate 4%"

B4203 COMPOSITION OF ASPHALT BASE AND SURFACING MIXTURES

In the first paragraph, third last line, after "or active filler content" add:

"or aggregate content"

REPLACE THE FIFTH PARAGRAPH WITH THE FOLLOWING:

"The design of the asphalt mixes shall be in accordance with "Interim Guidelines For The Design Of Hot-Mix Asphalt In South Africa (June 2001)", and appropriate research results. The mix properties and requirements shall be as specified in the project specifications."

The relevant asphalt mixes for the base and surfacing layers shall comply with the requirements in Table B4203/1.

REPLACE TABLE 4202/6 WITH:

"TABLE B4202/6

Sieve size (mm)	Maximum nominal size (mm)			
	Semi-gap		Continuously graded	
	37,5	28	37,5	28
	Percentage passing sieve by mass			
37,5	100		100	
28	87 – 100	100	86 – 95	100
20	77 – 96	93 – 100	73 – 86	87 - 96
14		83 – 94	61 – 76	73 - 85
10	61 – 81	73 – 88	52 – 68	64 - 79
7		62 – 77		
5	46 – 61	51 – 65	37 – 54	43 – 61
2	39 – 51	39 – 51	23 - 40	28 - 44
1	35 - 46	35 – 46	17 - 32	20 - 35
0,600	32 – 42	32 – 42		15 – 30
0,300	22 – 35	22 – 35	9 – 21	11 – 24
0,150	10 – 20	10 – 20	6 – 17	8 – 19
0,075	4 - 10	4 – 10	4 - 12	5 - 12
Nominal Mix Proportions by Mass when Bitumen is Used	Aggregate	93,5%	95%	94,5%
	Bitumen (grade according to project specifications)	5,5%	4%	4,5%
	Active filler*	1,0%	1,0%	1,0%

* Active filler for tender purposes to be hydrated lime.

Notes:

1. For recycled asphalt the nominal mix ratios of recovered asphalt, new aggregate, new bituminous binders, and active mineral filler to be used for tender purposes, shall be as specified in the project specifications.
2. Refer to standard COLTO table for COLTO grading if required."

REPLACE TABLE 4202/7 WITH:

"TABLE B4202/7 PART 1

Sieve size (mm)	Mix Type					
	Gap graded			Semi-gap graded		
	Stone content			Maximum stone size		
	High	Intermediate	Low	28 mm	20 mm	
PERCENTAGE THROUGH SIEVE BY MASS	28				100	
	20	100	100	100	93 - 100	100
	14	78 - 100	78 - 100	78 - 100	83 - 94	83 - 94
	10	67 - 87	71 - 91	71 - 91	73 - 88	74 - 87
	5	52 - 62	61 - 71	66 - 76	51 - 65	46 - 61
	2	45 - 55	53 - 63	60 - 70	39 - 51	39 - 51
	1	45 - 55	53 - 63	60 - 70	35 - 45	35 - 45
	0,600	36 - 52	45 - 63	55 - 70	32 - 42	32 - 42
	0,300	25 - 45	35 - 55	45 - 65	22 - 35	22 - 35
	0,150	12 - 32	15 - 35	20 - 40	10 - 20	10 - 20
NOMINAL PROPORTIONS BY MASS	0,075	5 - 12	5 - 12	5 - 12	4 - 10	4 - 10
	AGGREGATE	92,0%	92,0%	92,0%	93%	93%
	BITUMEN (GRADE ACCORDING TO PROJECT SPECIFICATIONS)	7,0%	7,0%	7,0%	6,0%	6,0%
NOMINAL PROPORTIONS BY MASS	ACTIVE FILLER	1,0%	1,0%	1,0%	1,0%	1,0%

Note:

Refer to standard COLTO table for COLTO grading if required.

TABLE B4202/7 PART 2

BY MASS		Continuously graded			Semi-open graded
		Coarse	Medium	Fine	
BY MASS	28	100			
	20	88 - 100			100
	14	73 - 86	100		75 - 100
	10	64 - 77	85 - 100	100	53 - 85
	5	44 - 62	56 - 77	66 - 89	20 - 41
	2	27 - 45	33 - 48	42 - 59	7 - 20
	1	21 - 35	25 - 40	31 - 51	4 - 13
	0,600	16 - 28	18 - 32	24 - 40	3 - 10
	0,300	12 - 20	11 - 23	16 - 28	3 - 8
	0,150	8 - 15	7 - 16	10 - 20	2 - 6
BY MASS	0,075	4 - 10	4 - 10	4 - 12	1 - 4
	AGGREGATE	93,5%	93,5%	93,0%	90,5%
	BITUMEN (GRADE ACCORDING TO PROJECT SPECIFICATIONS)	5,5%	5,5%	6,0%	8,5%
	ACTIVE FILLER	1,0%	1,0%	1,0%	1,0%

Note:

Refer to standard COLTO table for COLTO grading if required"

REPLACE TABLE 4202/8 WITH:

"TABLE B4202/8

Sieve size (mm)	Continuously graded	
	Maximum stone size	
	14 mm	20 mm
20		100
14	100	86 - 97
10	83 - 100	72 - 86
5	53 - 72	47 - 64
2	30 - 47	26 - 43
1		17 - 30
0,600	13 - 25	13 - 25
0,300	8 - 18	10 - 18
0,150		6 - 13
0,075	4 - 8	4 - 10
Nominal mix proportions		
Aggregate	91%	91%
Modified binder	7%	7%
Active filler	2%	2%

Note:

Refer to standard COLTO table for COLTO grading if required"

REPLACE TABLE 4203/1 WITH:

"TABLE B4203/1: ASPHALT MIX REQUIREMENTS: BASE AND SURFACING

PROPERTY	CONTINUOUSLY GRADED BASE MIXES (37,5 AND 26,5 mm AGGREGATES)	CONTINUOUSLY GRADED SURFACING MIXES (COARSE AND MEDIUM GRADED)	BITUMEN-RUBBER SEMI-OPEN GRADED ASPHALT (BRASO) SURFACING
Marshall stability (kN)	8 - 18	8 - 18	Report
Marshall flow (mm)	2 - 6	2 - 6	Report
Stability /flow (kN/mm)	> 2,5	> 2,5	Report
VMA (%)	> 14	> 15	> 14
VFB (%)	65 - 75	65 - 75	Report
Air voids (%) after standard Marshall Compaction	4 - 6	4 - 6	4 - 6
Air voids (%) after standard Marshall compaction times 2 ⁽³⁾	Report	Report	Report
Indirect tensile strength at 25 °C (kPa)	1 000 - 1 300	1 000 - 1 500	> 400
Dynamic creep modulus at 40 °C (MPa)	> 20	> 20	-
Modified Lottman at 7% voids (TSR)	> 0,7	> 0,8	> 0,7
Air permeability at 7% voids (cm ²)	< 1 x 10 ⁻⁸	< 1 x 10 ⁻⁸	< 1 x 10 ⁻⁸
Binder film thickness (microns)	5,5 - 8,0	5,5 - 8,0	11 - 15
Filler bitumen ratio	1 - 1,5	1 - 1,5	-
Immersion index (%)	0,75	0,75	-
Cantabro abrasion loss at 25 °C (%)	-	-	2,5 max
MMLS3, 100 000 cycles of a 2,9 kN wheel load. Speed: 7 200 load repetitions per hour (95% probability level) ⁽¹⁾	2,2 mm at 50 °C	2,5 mm at 55 °C	1,8 mm at 55 °C
Min. voids content of after 300 gyrations with gyratory compactor, according to SHRP testing protocol	Report	Report	Report

Notes:

(1)

MMLS3 testing or similar shall be conducted on production mixes used on the trial sections. The Contractor shall allow in his rates for the cost of all the testing required for the final mix approval, including one MMLS3 test per approved mix. Should more MMLS3 testing be required on request of the Employer's Agent, the cost of the test will be borne by the Employer, unless the test had to be repeated due to previous unsuccessful mixes. MMLS3 testing is conducted on 150 mm diameter briquettes or cores.

For asphalt bases made with aggregates of 37,5 mm of maximum nominal size, the Hugo compactor shall be used to compact 150 mm diameter briquettes.

'Standard Marshall compaction times 2' stands for the compaction of Marshall briquettes as in accordance with TMH1 Method C2, but with 150 blows on each of the faces of the briquette instead of the standard 75 blows per face."

B4204 PLANT AND EQUIPMENT

Vehicles

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

"To minimize temperature loss all vehicles used for transporting asphalt to the site shall be fitted with thermal asphalt covers (canvas covers not acceptable) irrespective of the prevailing climatic conditions or distance of transport."

ADD THE FOLLOWING SUBCLAUSE:

"(h) Transfer of mix to paver

Asphalt shall be transferred from the haul trucks to the paver by means of a materials storage and transfer vehicle ("shuttle buggy") and no material shall be transferred directly from the haul vehicle into the paver.

The material storage and transfer vehicle must be able to store and transfer hot-mixed asphalt material from a truck to a paver to ensure continuous paving. It must contain an anti-segregation auger which remixes materials just before they are delivered to the asphalt paver."

B4205 GENERAL LIMITATIONS AND REQUIREMENTS AND THE STOCKPILING OF MIXED MATERIAL

Moisture

Insert "and/or primed base" after "surfacing" in the third line of the first sentence.

Replace the last sentence with "In such case the base shall be allowed to dry out to meet the above moisture content requirement prior to placing the surface layer."

Surface Requirements

Tack Coat

ADD THE FOLLOWING PARAGRAPH:

"Hand spraying shall only be permitted on areas approved by the Employer's Agent. The binder distributor shall be capable to apply the binder evenly over the full area. The equipment shall comply with clause 4103. Tack coat shall be applied to all transverse and longitudinal joints by hand utilizing a paint brush."

B4206 PRODUCING AND TRANSPORTING THE MIXTURE

b) Production of the mixture

- (ii) Using drum-type mixer plants

ADD THE FOLLOWING:

"Pre-blending of aggregate fractions shall not be permitted and the contractor shall ensure that sufficient cold-feed bins are installed to accommodate each individual aggregate fraction, including the filler."

c) Transporting the mixture

DELETE THE SECOND SENTENCE IN THIS PARAGRAPH.

ADD THE FOLLOWING SUB-CLAUSE:

"f) Approval of asphalt mixture

Before any asphalt is placed on the road, the Employer's Agent shall approve the mix design. The approval process shall be as follows:

The contractor shall prepare and submit a laboratory design mix with test results at four different bitumen contents. The design mix shall be submitted on the prescribed form D3 of TMH 10: "Instruction for the Completion of As-Built Materials Data Sheets" with all the necessary test results completed. In addition, the proposed asphalt mixture shall be subjected to gyratory testing. All the expenses in preparing and submitting the laboratory design mix shall be to the contractor's cost.

Samples of all aggregate and bitumen shall be submitted with the laboratory design mix to enable the Employer's Agent to carry out check design testing as necessary. The above design and aggregate shall be submitted to the Employer's Agent at least six weeks before it is intended to commence with any asphalt production.

After approval is obtained for the laboratory design mix, a plant mix at varying binder contents of approximately 5 to 10 tons each shall be produced. The purpose of the plant mix is for the contractor to prove that the laboratory design mix can be produced successfully. The Employer's Agent shall conduct the necessary testing on the plant mix. The plant mix shall not be placed on the road. During the production of the plant mix, the Employer's Agent shall be afforded the opportunity to inspect the asphalt plant.

After the plant mix is approved, permission shall be given for laying a trial section at varying binder contents in accordance with the requirements of section 4211 of the specifications. The Employer's Agent may require that the mix be further assessed by means of CSIR Wheel Tracking or MMLS testing, the cost of which will be borne by the Employer. Mass production of asphalt shall only commence after approval of the trial section, which should be given within a maximum of ten days.

The Employer's Agent may instruct the Contractor at any time to halt his paving process and to review the whole or part of the above process should a change of aggregate properties occur, the specified asphalt requirements not being met and/or a consistent asphalt mixture not be produced."

The inertial laser profilometer shall be used to record the longitudinal profile in both wheel tracks of each traffic lane or shoulder wider than 2.0m as determined according to the final line markings that will be applied after construction. Should the two tracks not be measured simultaneously during the same pass, then procedures shall be implemented to ensure that the longitudinal profile data recorded for the two-wheel tracks are at the same longitudinal location on the road.

The measured longitudinal profiles will then be processed using the Quarter Car Simulation model with parameter values as defined in ASTM standard (E1170-97) for **Ride Meter Vehicle Mounted**. The simulated

suspension mentioned will then be linearly accumulated and divided by the length to yield 100m IRI (international Roughness Index) values in units of mm/m or m/km for each wheel track. The last 50m and the

joining first 50m of adjacent sections will be evaluated as a 100m section in the direction of vehicle travel. For each measured lane the left and the right 100m IRI values from the three runs will then be averaged to produce the average IRI as follows

Run1 IRI_{100 Ave}=
(100m IRI_{left wheel track} +100m IRI_{Right Wheel track})/2

Run2 IRI_{100 Ave}=
(100m IRI_{left wheel track} +100m IRI_{Right Wheel track})/2

Run3 IRI_{100 Ave}=
(100m IRI_{left wheel track} +100m IRI_{Right Wheel track})/2

Average IRI_{100m}=
(Run 1 IRI_{100m Ave} +Run2 IRI_{100m Ave}+ Run3 IRI_{100m Ave})/3

The average IRI_{100m} value is then evaluated and judged according to Table B4213/2 to determine whether the 100m section needs corrective work or payment adjustments.

For the Asphalt Base, the values in payment bracket 6 in Table B4213/2 shall be applied as the payment adjustment factors for the Asphalt Base on the contract or section.

For the Asphalt Surfacing, the applicable Payment Bracket in Table B4213/2 for the measured lanes and shoulders will be determined as follows:

1 Calculate the applicable Target IRI_{100m Ave} for full payment as follows:
Target IRI_{100m Ave}=Greater of 1.05 or [IRI_{b Ave}*{1-(NAT/100)}]

Where:

IRI_{b Ave}=Average IRI_{100m} before the construction of the the asphalt surfacing as determined from

- i) the average IRI_{100m} as calculated from the network roughness measurements performed by the employer not more than 12 months prior to commencement of the contract or
- ii) the Average IRI_{100m} as calculated from the measurements performed as part of the assessment of the new constructed base (refer to B3405(f) for granular base and B4213(a) for asphalt base).

Table 1: PAYMENT ADJUSTMENT FACTORS FOR ASPHALT BASES AND ASPHALT SURFACINGS

Target IRI100mAve (m/km)	PAYMENT ADJUSTMENT FACTORS							
	Full Payment Bracket 1	Full Payment Bracket 2	Full Payment Bracket 3	Full Payment Bracket 4	Full Payment Bracket 5	Full Payment Bracket 6	Full Payment Bracket 7	Full Payment Bracket 8
<0.8	1.050	1.050	1.050	1.050	1.050	1.050	1.050	1.050
0.81 to 0.90	1.025	1.050	1.050	1.050	1.050	1.050	1.050	1.050
0.91 to 1.0	1.010	1.025	1.050	1.050	1.050	1.050	1.050	1.050
1.01 to 1.10	1.00	1.010	1.025	1.050	1.050	1.050	1.050	1.050
1.11 to 1.20	0.99	1.000	1.010	1.025	1.050	1.050	1.050	1.050
1.21 to 1.30	0.975	0.99	1.000	1.010	1.025	1.050	1.050	1.050
1.31 to 1.40	0.955	0.975	0.999	1.00	1.010	1.025	1.050	1.050
1.41 to 1.50	0.930	0.955	0.975	0.990	1.000	1.010	1.050	1.050
1.51 to 1.60	0.900	0.930	0.955	0.975	0.990	1.00	1.025	1.050
1.61 to 1.70	0.865	0.900	0.930	0.955	0.975	0.990	1.00	1.025
1.71 to 1.80	Reject	0.865	0.900	0.930	0.955	0.975	0.990	1.00
1.81 to 1.90	Reject	Reject	0.865	0.900	0.930	0.955	0.975	0.990
1.91 to 2.00	Reject	Reject	Reject	0.865	0.900	0.930	0.955	0.975
2.01 to 2.10	Reject	Reject	Reject	Reject	0.865	0.900	0.930	0.955
2.11 to 2.20	Reject	Reject	Reject	Reject	Reject	0.865	0.900	0.930
2.21 to 2.30	Reject	Reject	Reject	Reject	Reject	Reject	0.865	0.900
2.31 to 2.40	Reject	Reject	Reject	Reject	Reject	Reject	Reject	0.865
>2.41	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject

B4208 JOINTS

ADD THE FOLLOWING TO THIS CLAUSE:

"Where the difference in level between the new work and the existing road surface exceeds 25mm, joints shall be treated as follows:

Transverse steps at the end of a day's work shall be tapered off at a slope of 1 vertical to 20 horizontal (1:20) to tie in with the existing surface. The tapered section shall be removed before surfacing is recommenced and a joint formed in accordance with clause 4208 of the specification.

Longitudinal joints exposed to traffic shall be provided with a taper of compacted asphalt material over the full length of the exposed joint. The width of the taper shall be at least 5 times the difference in level between the old and new work.

All costs involved in the provision and removal of these temporary ramps shall be deemed to have been included in the rates tendered for the relevant asphalt payment item."

B4213 CONSTRUCTION TOLERANCES AND FINISH REQUIREMENTS

Gradings

REPLACE TABLE 4213/1 WITH:

"TABLE B4213/1: AGGREGATE GRADING TOLERANCES

Size of aggregate passing Sieve size (mm)	Permissible deviation from target grading (%)
28	± 5
20	± 5
14	± 5
10	± 5
7	± 5
5	± 4
2	± 4
1	± 4
0,600	± 4
0,300	± 3
0,150	± 2
0,075	± 1*

* When statistical methods are applied the permissible deviation for the 0,075 fraction is ± 2%."

B4214 QUALITY OF MATERIAL AND WORKMANSHIP

Coring of asphalt layers

ADD THE FOLLOWING:

"A suitable coring machine shall be available on a daily basis when asphalt paving is taking place. Cores shall only be drilled, when the road temperature is 20°C or less. Core holes shall be filled with hot mix asphalt and compacted, all within 24 hours of the core being drilled. Coring shall be carried out within 48 hours after the paving has been completed and supplied to the Employer's Agent. The test results of cores shall be submitted to the Employer's Agent within 24 hours after coring."

Routine inspection and tests

ADD THE FOLLOWING PARAGRAPHS:

"The contractor shall keep accurate records of:

The position where every truckload of asphalt is paved (chainage, lane, time and date).

The temperatures of the asphalt in the trucks both at the mixing plant and at the paving equipment immediately prior to discharging the load.

The truck and load number from which control samples are taken. All samples taken shall be appropriately numbered.

Test results and measurements will be assessed in accordance with the provisions of section 8200."

B19. SECTION 5100: PITCHING, STONWORK AND PROTECTION AGAINST EROSION

B5102: MATERIALS

- (c) Sand
- (ii) Sand for bedding

ADD THE FOLLOWING:

"The sand shall be of uniform moisture content when spread and shall be protected against rain when stockpiled on site prior to spreading."

- (d) Paving blocks

DELETE THE FIRST PARAGRAPH AND REPLACE WITH:

"Paving blocks shall comply with the requirement of the specification for "Precast Concrete Paving Blocks issued by the Concrete Masonry Association."

The curing period of the concrete paving blocks at the factory, before moving and delivering to site shall be a minimum of fourteen (14) days. Should the blocks not have reached their strength after fourteen (14) days of curing, they shall be cured for such additional period as is necessary to achieve the required strength."

ADD THE FOLLOWING SUBCLAUSE:

- "(f) Edge beams

Edges without concrete channels or kerbs shall be restrained by means of Class 25/19 concrete edge beams to the dimensions shown on the drawings or as directed by the Engineer."

B20 SECTION 5600 : ROAD SIGNS

B5601 SCOPE

“This section also covers the supply and erection of permanent danger plates at culverts and bridges at the locations indicated on the drawings or as directed by the engineer.”

B5603 MANUFACTURING OF ROAD SIGN BOARDS AND SUPPORTS

(a) Road signboards

ADD THE FOLLOWING:

“The contractor shall make every effort to ensure that signboards are correct in all respect and before dispatching the boards from the manufacturer’s factory shall provide the Engineer with a 100mm x 150mm colour photograph of each sign face for approval of the correctness of the legend. Such approval will not imply final acceptance of the board. If the Contractor is in any doubt as to the correctness of the sign detail, the sign designer shall be contacted for verification.”

(a) (ii) Steel profile road signboards

ADD THE FOLLOWING:

“Where the letter or legends cross the horizontal joints of the sign panels, the letter shall be cut on the joint and both ends folded around the radius. Retro-reflective material to adjoining Chromadek panels on a sign shall be practical visual match of the specified colour.”

B5604 ROAD SIGN FACES AND PAINTING

ADD THE FOLLOWING NEW SUBCLAUSE:

“(e) Application of retro-reflective material

All sign faces shall be faced with class 1 grade retro-reflective material. Painted front sign faces shall not be used.

Where applied to Chromadek sections, retro-reflective material shall be applied as specified for aluminium section in Clause 5603(d) of the Standard Specification, and of Clause B5603(a)(ii) of this project Specification. All sign lettering and symbols are to be class 1 retro-reflective material with the exception of direction signs which is to be Class III retroreflective material.

For W405, W406, R1 and W409 signs, the sign faces shall be Class III retro-reflective material and the lettering and symbols shall be Class III retro-reflective material.”

B5605 STORAGE AND HANDLING

ADD THE FOLLOWING:

“The following shall not be allowed on the sign face:

- (a) Drilling of holes, except for the fastening of overlays.
- (b) Application of any form of adhesive.
- (c) Cleaning with any chemicals that are not specifically approved by the manufacturer of the retro-reflective material
- (d) Covering the sign face with an impermeable material that does not allow free circulation of air.”

B5606 ERECTING ROAD SIGNS

(c) Erection

ADD THE FOLLOWING:

"After erection the signboard shall be thoroughly cleaned with a cleaning agent approved by the retro-reflective material's manufacturer.

All vegetation obstructing the new or replaced sign board shall be removed and disposed of as instructed by the Engineer."

B5608 DISMANTLING, STORING AND RE-ERECTING EXISTING ROAD SIGNS

ADD THE FOLLOWING:

"Existing overhead and ground mounted road signs that are being replaced by new signs shall be dismantled and disposed of by the Contractor. Where possible the dismantling of the signs shall not be before the replacement sign is erected and displayed. Where dismantling of the sign is required before erection of the replacement sign, the dismantling shall not take place until immediately before work is to commence on the replacement, and the replacement shall be completed and the new sign displayed as soon as possible thereafter (within 72 hours).

Dismantling shall include sign panels and ground mounted sign supports.

Ground mounted sign supports shall be cut off just below ground level. Material excavated for removal of buried poles shall be replaced, and any depression made good using excess material from excavation for new signs.

Pay items are provided in the Bill of Quantities. Payment will differentiate between different types of sign panels."

B21 SECTION B5700: ROAD MARKINGS

B5701 SCOPE

Replace "South African Road Traffic Signs Manual" in the second paragraph with:

"SADC Road Traffic Signs Manual"

Replace the words "ordinary road-marking paint" with "solvent borne road-marking paint".

Replace "BS 3262" with "EN 1436".

Replace "Hot melt plastic road marking" with "thermoplastic road marking".

AFTER THE LAST PARAGRAPH, ADD THE FOLLOWING:

"Provision is made in the Pricing Schedules for different road-marking materials. The Contractor shall take note that the Employer reserves the right to utilise any, or all, or a combination of any of these road-marking materials at any stage during the construction period. The utilisation of the road-marking materials as indicated cannot be regarded as grounds for any claim by the Contractor."

B5702 MATERIALS

INSERT THE FOLLOWING BEFORE SUBCLAUSE B5702(A):

"The selection of appropriate road-marking paint and materials for permanent road markings to ensure conformance with the requirements of this specification rests with the Contractor. Road-marking materials for temporary road markings as clarified in SANS 731-1 shall be equal to or more durable than the road-marking paint specified in subclauses B5702(a)(i) and B5702(a)(ii), provided it meets the specified initial performance criteria. Road-marking materials for permanent road markings as clarified in SANS 731-1 shall be hot-melt thermoplastic or cold plastic equal to or more durable than the plastic road-marking material specified in subclause B5702(a)(iii), provided it meets the specified initial performance criteria. Should the Contractor propose alternative materials for permanent road markings, the onus is on the Contractor to provide the Employer's Agent with sufficient supporting evidence to assess the extent to which the alternative product(s) meet the requirements of subclause B5702(a)(iii)."

Paint

Road-marking paint

REPLACE SUBCLAUSE B5702(A)(I) WITH THE FOLLOWING:

"Road-marking paint shall be Type 1 as specified in SANS 731-1. Only paint, manufactured in a SANS approved and accredited facility shall be accepted. The no-pick-up time of road-marking paint shall comply with the Type 1 requirement in accordance with SANS 731-1."

The paint shall be delivered at the Site in sealed containers marked in accordance with SANS 731-1.

The viscosity of the paint shall be such that it can be applied without being thinned down."

ADD THE FOLLOWING:

"When measured in accordance with SANS 6261 within a period of two (2) weeks (\pm one (1) week) after application, the coefficient of retro-reflected luminance, R_L , of temporary road markings shall be at least 150 mcd/m².lx for white markings and 100 mcd/m².lx for yellow markings."

B5704 MECHANICAL EQUIPMENT FOR PAINTING

ADD THE FOLLOWING SENTENCE AT THE END OF THE FIRST PARAGRAPH:

"The road-marking machine shall be fitted with a device to guide the operator to the centre of the line to be painted. This device shall be used at all times of operation."

ADD THE FOLLOWING:

"The machine shall always operate in the direction of the traffic when applying lane markings."

B5705 SURFACE PREPARATION

ADD THE FOLLOWING AT THE END OF THE SECOND PARAGRAPH:

"The onus is on the Contractor to ensure that the surface on which the road markings are to be applied is sufficiently clean and dry to ensure that the quality of the road markings will not be adversely affected. The Contractor is also responsible for protecting roadstuds from being painted over, and the subsequent cleaning thereof if such over-painting did occur. (The cleaning of the roadstuds shall be done in such a manner that the functionality of the roadstuds will not be detrimentally affected by the cleaning agent.)"

ADD THE FOLLOWING AFTER THE FIRST SENTENCE OF THE THIRD PARAGRAPH:

"The Employer's Agent may also instruct the Contractor to remove existing road markings by means of sandblasting."

B5706 SETTING OUT THE ROAD MARKINGS

ADD THE FOLLOWING:

"Where road markings are to be replaced after construction activity, it is essential that all existing road markings be accurately surveyed and referenced before commencement of such construction activities will obliterate the existing road markings. The position of the new road markings shall be reassessed on site by the Employer's Agent before the Contractor commences with the road marking."

For safety purposes, premarking of the final road markings shall be done on a daily basis at the end of each working shift for the construction of the final overlays."

B5707 APPLYING THE PAINT

INSERT THE FOLLOWING BEFORE THE FIRST PARAGRAPH:

"The Contractor's establishment on site and general obligation shall be deemed to fully include the establishment of the road-marking team, irrespective of the number of times the road-marking team is required to be on site or is required to move within the Site."

B5708 APPLYING THE RETRO-REFLECTIVE BEADS

In the first paragraph, replace the nominal application rate of 0,8 kg/litre with "400 gm/m²".

REPLACE THE SECOND SENTENCE OF FIRST PARAGRAPH WITH THE FOLLOWING:

"The rate of application of the beads shall be such that the coefficient of retro-reflected luminance, R_L , specified in subclause B5702(a)(ii), is achieved."

DELETE THE SECOND PARAGRAPH.

ADD THE FOLLOWING:

"Beads shall be applied in accordance with SANS 51424."

B5710 TOLERANCES

Alignment of markings

ADD THE FOLLOWING PARAGRAPHS:

"When an unbroken line and a broken line are painted alongside each other, the beginning and the end of the unbroken lane shall coincide with the beginning of one (1) broken line and the end of another broken line.

When existing lines are repainted, the new markings shall not deviate more than 100 mm in the longitudinal direction or 10 mm in the transverse direction from the existing marking.

B5711 GENERAL

Insert the following into the last sentence of the last paragraph between "black paint" and "or chemical paint remover":

", bituminous emulsion, slurry"

ADD THE FOLLOWING TO THE LAST PARAGRAPH:

"Where black paint is used, it shall be matt."

B5712 FAULTY WORKMANSHIP OR MATERIALS

ADD THE FOLLOWING PARAGRAPHS:

"Should less than 95% of the road markings comply with the specified coefficient of retro-reflected luminance when measured in accordance with SANS 6261 at a 5% sample level, the Contractor shall repaint the works at his own cost.

The Contractor shall rectify in an acceptable manner and at his own costs; all markings that do not comply with the specified requirements.

While work is in progress, tests shall be carried out on materials and/or the quality of work to ensure compliance with the specified requirements. The sampling methods are specified in SANS 731-1. The sampling methods described in TMH5 shall be followed where applicable."

B5713 PROTECTION

ADD THE FOLLOWING PARAGRAPH:

"Traffic cones shall not be smaller than 750 mm in height and shall be placed on the road not further than 48 m apart. Cones shall not be removed before the paint on the road has hardened to such an extent that it will not be damaged by traffic and the adhesive of the roadstuds has hardened to such an extent that the studs will not turn or become loose. All marks on the road caused by traffic driving over wet paint shall be removed by the Contractor at his own cost."

B5714 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING NOTE IMMEDIATELY AFTER THE HEADING OF CLAUSE B5714 MEASUREMENT AND PAYMENT:

"Note:

The Contractor shall note that, notwithstanding the fact various payment items indicate that haul, overhaul and all associated items will be paid for separately, this shall not apply to this section."

B22 SECTION B5800: LANDSCAPING AND PLANTING PLANTS

B5801 SCOPE AND DEFINITION

Scope

DELETE THIS PARAGRAPH AND REPLACE WITH:

"This section includes all areas affected by construction activities. It includes landscaping, grassing, rehabilitation, erosion protection and the planting of trees and shrubs."

Definition

Weeds

Delete "(as listed in Bulletin 413 issued by the Department of Agriculture, Directorate of Agricultural Information)" and replace it with "(as listed in the Conservation of Agricultural Resources Act)".

B5802 MATERIALS

Fertiliser/soil-improvement material

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The fertiliser/soil-improvement materials to be used shall be one (1) or more of the following types, or as prescribed by the Employer's Agent:

Lime

Superphosphate (10,5)

Limestone ammonium nitrate

2:3:2(22) + Zn

3:2:1(25)

Monophosphate

Ureum (46)

Potassiumchloride (50)"

Grass seeds

ADD THE FOLLOWING:

"The grass seed mixture shall be *Cynodon dactylon*.

The Contractor shall note that normally grass seeds are to be ordered at least six (6) months in advance so that the necessary harvesting can take place well in time.

Grass seeds shall be mixed with a mulch of either chopped straw, sawdust or sand in order to prevent the separation of seeds of different size, weight and shape. Prior to seeding, trials shall be carried out to determine which of these materials is most effective in preventing the separation of seeds. 2.3.2(22) Zn fertiliser shall be added to the seed mixture prior to broadcasting."

Topsoil

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"The Contractor shall be responsible for the control of any germination of weed seeds within the topsoil used on site."

ADD THE FOLLOWING AT THE END OF THE SECOND PARAGRAPH:

"Areas such as stockpiles, borrow pits and spoil sites shall be stripped of all topsoil before work may commence within the area. Should a larger site for any of the above be required during construction, the Contractor shall refer to the DEO for best practice methods on ensuring the preservation of the additional stripped topsoil."

ADD THE FOLLOWING NEW PARAGRAPH:

"The topsoil shall be kept free of all foreign material generated during construction. This shall include all stone and bituminous products. shall not be accepted should it contain any of the above material."

B5804 PREPARING THE AREAS FOR PLANTS

Areas which do not require topsoil

Replace "50 mm" with "20 mm" and "150 mm" with "20 mm".

ADD THE FOLLOWING:

"In areas with large natural rock, i.e. not blasted or excavated rock, these rocks may be placed so as to look like a natural part of the landscape."

ADD THE FOLLOWING NEW SUBCLAUSE:

"(g) Removal of undesirable vegetation

During the course of the Contract the Employer's Agent may instruct the Contractor to physically remove undesirable vegetation from within the road reserve. Such an operation will take place before the flowering stage of the undesirable vegetation upon written instruction from the Employer's Agent, but shall not relieve the Contractor of his obligation towards weeding sodded, grassed areas as described under subclause 5806(a) and any area directly affected by any construction activity. Should the Contractor fail to respond to the written instruction from the Employer's Agent for the removal of the aforementioned undesirable vegetation before flowering, the Contractor shall be held contractually responsible for any growth or seeding of said vegetation for a period of not less than twenty-four (24) months in the affected area."

B5805 GRASSING

Sowing by hand

DELETE THE FOLLOWING:

"If approved by the Employer's Agent,"

REPLACE THE SECOND SENTENCE WITH:

"The top 20 mm of prepared topsoil shall be raked away in sections and the seed spread uniformly within the prepared area. The top 20 mm of topsoil shall then be raked over the seedbed, ensuring an even thickness. This method is to be systematic, and where applicable, follow the contours of any slopes."

ADD THE FOLLOWING:

"The thickness of the topsoil layer shall be as specified by the Employer's Agent. The preparation of the soil for the areas to be grassed is to include scarifying just before sowing the grass seed. Should erosion of any kind (by animal, wind or rain) have occurred before the Contractor applies the grass seed, the slope shall be reinstated at the Contractor's cost to its original erosion-free state before seeding."

The types and mixtures of the seeds to be used shall be as specified in the project specifications. The Contractor shall be solely responsible for establishing an acceptable grass cover. Any approval by the Employer's Agent of seed mixtures intended for use by the Contractor shall not relieve him of his responsibility."

B5808 GENERAL

ADD THE FOLLOWING SUBCLAUSES:

"(g) Weeding

The Contractor shall maintain all areas affected by construction activities free of all undesirable plant species. They shall be removed before the flowering stage of each species. Should the Contractor fail to remove the alien plant species before flowering, he shall be held responsible for alien plant removal within the affected area for an additional period of one (1) year, over and above the contractual Defects Liability Period.

The method for the removal of undesirable plant species shall be either by hand, which shall include the removal of the complete root system, or by chemical means, through the use of a registered selected herbicide. Only a registered, licensed pest control operator, licensed for the industrial application of herbicides, shall administer the application of the herbicide."

Establishment of vegetation within areas disturbed by construction activities

The Employer's Agent shall assess any area within the construction boundaries that has been disturbed by construction activities, but which is not scheduled for formal revegetation within the Contract. The assessment shall include whether re-vegetation is required. These disturbed areas nonetheless remain the Contractor's responsibility for the removal of alien vegetation (see subclause B5804(g)) for which no additional payment will be made.

Any area outside the roadwork area, namely on existing cut and fill slopes, as well as between toe-lines and the reserve boundaries that has been disturbed by spoiled material or any other activities whatsoever by the Contractor shall be reinstated to its original condition. The Employer's Agent will prescribe the necessary reinstatement that may include removal of the spoiled material, ripping, placing of new topsoil and grassing. No payment will be made for the reinstatement and repairs of these areas."

B5809 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING NOTE IMMEDIATELY AFTER CLAUSE B5809 MEASUREMENT AND PAYMENT CLAUSE HEADING:

"Note:

The Contractor shall note that, notwithstanding the fact that various payment items indicate that haul, overhaul and all associated items will be paid for separately, this shall not apply to this section. Payment for haul, overhaul and associated items will be made as specified in Section 1600."

Item	Unit
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B58.03 Preparing the areas for grassing:

Top soiling within the road reserve, where the following materials are used:

REPLACE SUBITEM B58.03(C)(I) WITH THE FOLLOWING:

"(i) Topsoil obtained from within the road reserve
or borrow areas (including all haul) cubic metre (m³)"

REPLACE THE THIRD PARAGRAPH OF MEASUREMENT WITH THE FOLLOWING:

"The tendered rates shall include full compensation for excavating and loading the topsoil, any royalties or compensation that may be payable in the case of topsoil under subitem B58.03(c)(ii), transport including all haul, off-loading, placing and spreading it to the required thickness, levelling it off to a smooth surface, for removing any stones as specified and for roughening the surface to be top soiled."

DELETE THE FIRST SENTENCE OF THE LAST PARAGRAPH OF THE MEASUREMENT AND PAYMENT ITEMS OF B58.03(C) AND B58.03(D).

Stockpiling the topsoil

Delete from the first paragraph, the last sentence: "Only material loaded ... approved area."

Add the following payment item:

Item	Unit
B58.14 Landscaping of specified areas:	
(a) Beautification	provisional (Prov) sum
(b) Handling costs, profit and all other charges in respect of subitem B58.14(a) above	percentage (%)

The tendered sum shall include full compensation for landscaping of specific areas through Selected Subcontractor for design and implementation. The landscaping will be done according to the specifications and in accordance with the Employer's Agents instructions and approval. Payment shall be made in accordance with the provisions of Clause 6.6 of GCC 2015."

B23 SECTION B5900: FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

B5901 SCOPE

Add the following:

"Where reference is made in this section to 'the road and road reserve', this shall also be deemed a reference to 'the Site of the Works'."

B5902 FINISHING THE ROAD AND ROAD RESERVE

"(a) New construction

Replace the sixth paragraph with the following:

"All materials resulting from the finishing operations shall be disposed of at approved spoil sites provided by the Contractor in accordance with the Environmental Management Plan."

B5904 MEASUREMENT AND PAYMENT

Add the following note directly after the clause heading:

"Note:

The Contractor shall note that, notwithstanding the fact that various payment items indicate that haul, overhaul and all associated items will be paid for separately, this shall not apply to this section."

B24 SECTION 6200: FALSEWORK, FORMWORK AND CONCRETE FINISH

B6204 DESIGN

(a) General

ADD THE FOLLOWING:

“The Contractor shall submit to the engineer at least 4 weeks before the structure is scheduled for construction, a detailed analysis showing the effect of the stresses that will be induced by the Contractor’s chosen method of construction, on the falsework and structure. The cost of any additional prestressing, reinforcing steel, concrete, etc. required as a result of the Contractor’s chosen method of construction shall be to the Contractor’s account. Drawings and calculations shall be signed by a suitably experienced registered professional engineer. No construction shall commence until the Engineer has given his written approval.”

(b) Falsework

ADD THE FOLLOWING:

“Unless instructed otherwise by the Engineer, the Contractor shall submit his design criteria and detailed drawings of the staging to the formwork. The design, signing of the drawings and inspection of the falsework prior to construction of the permanent works shall be undertaken by the contractor’s competent person, who shall be a professional engineer with the relevant experience.”

(c) Formwork

(i) General

ADD THE FOLLOWING:

“All form ties shall be provided with recoverable chamfered cones between tube ends and formwork faces to ensure that tube ends are not exposed on concrete surfaces. The cones shall have a minimum depth of 15 mm.

The height to which formwork for piers, walls and abutments may be erected at any one time shall be subject to the approval of the Engineer.”

B6205 CONSTRUCTION

(b) Formwork

(i) General

ADD THE FOLLOWING:

“Formwork to faces of structures with a gradient equal to or greater than two vertical to one horizontal shall be classified as vertical formwork.

Formwork to faces of structures with a gradient of less than two vertical to one horizontal shall be classified as horizontal formwork.

No inclined formwork shall be paid for. All inclined formwork to be included under either Horizontal or Vertical formwork.”

(ii) Formwork to exposed surfaces

ADD THE FOLLOWING:

“The formwork at construction joints shall have moulding strips 25 mm x 25 mm neatly butted and set at the position of the construction joint”.

(vi) Permanent Formwork

ADD THE FOLLOWING PARAGRAPH:

“Anchor ties shall be designed to resist full buoyancy forces and details of such shall be submitted to the Engineer for approval. Void formers shall be held in position in order that no movement exceeding 1% of the deck thickness takes place during concreting.”

(d) Class F3 surface finish

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

“The use of steel forms shall be permitted to form surfaces for which Class F3 surface finish has been specified, provided that only undamaged forms shall be used for such work and that the forms shall be subject to the approval of the engineer.”

B6206 FORMED SURFACES: CLASSES OF FINISH

(d) Class F3 surface finish

REPLACE THE SECOND PARAGRAPH WITH THE FOLLOWING:

“The use of steel forms shall be permitted to form surfaces for which Class F3 surface finish has been specified, provided that only undamaged forms shall be used for such work and that the forms shall be subject to the approval of the Engineer.”

No inclined formwork shall be paid for. All inclined formwork to be included under either Horizontal or Vertical formwork.”

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B6206 FORMED SURFACES: CLASSES OF FINISH

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"The use of steel forms shall be permitted to form surfaces for which Class F3 surface finish has been specified, provided that only undamaged forms shall be used for such work and that the forms shall be subject to the approval of the Engineer."

B25 SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES

B6306 PLACING AND FIXING

REPLACE THE SECOND AND THIRD PARAGRAPHS WITH THE FOLLOWING:

“The concrete cover for all structural concrete shall be within the acceptance ranges shown in Table B6404/5. Prior to fixing the steel, samples of the proposed spacers shall be submitted to the Engineer along with a written statement for in-situ manufacture, if applicable, for approval.

Overlap of steel reinforcement bars shall be such that the cover to the lapped bars remains constant at the specified cover.”

B6307 COVER AND SUPPORTS

AMEND THE SECOND PARAGRAPH AS FOLLOWS:

REPLACE THE SECOND SENTENCE, COMMENCING WITH

“Where no cover is indicated...shown in Table 6306/1” with the sentence “Where no cover is indicated, the Contractor shall inform the Engineer who shall after consultation with the design engineer indicate the required cover in writing and the as-built drawings shall indicate such cover”.

ADD THE FOLLOWING TO THE END OF THE FIFTH PARAGRAPH:

“Concrete cover and spacer blocks shall be made using the same cement and aggregate type as the main concrete with the same water/ cement ratio so that differences in shrinkage, thermal movements and strain are minimised. Cover blocks shall be water cured by submersion for a minimum of 7 days and thereafter kept submerged in water until immediately before fixing onto reinforcing steel. Where concrete cover blocks, subsequent to fixing, have visually dried out they shall be remoistened by an appropriate method so that they are damp before the placing of concrete. Only semi-spherical concrete cover blocks shall be used. Where fixing wire is inserted into cover blocks, it shall be galvanised. Cover and spacer blocks manufactured from other materials e.g. plastic or wood, shall not be permitted. All cover blocks regardless of the type of material manufactured from, shall not be visible on exposed concrete surfaces.”

DELETE TABLE 6306/1 IN ITS ENTIRETY.

ADD THE FOLLOWING PARAGRAPH:

“Where the concrete cover specified has not been achieved after cover tests have been carried out in accordance with clause B8106(g)(iv), reduced payment as determined under clause B8212 shall be applied to all the relevant pay items under section 6300.”

B26 SECTION B6400: CONCRETE FOR STRUCTURES

B6401 SCOPE

Add the following paragraph:

"The Contractor shall take and submit samples of materials and/or mixtures to the Employer's Agent who must approve mix designs before construction work can commence."

B6402 MATERIALS

Cement

Replace the colon at the end of the first paragraph with a comma, and add the following:

"taking into account the adoption of the new SANS 50197-1:2000, Part 1: Composition, specifications and conformity criteria for common cements (refer to C&CI website www.cnci.org.za)"

Add the following new paragraphs:

"The type of cement to be used in any concrete element shall take into account the environmental conditions and durability requirements at the location of the Site of the Works and shall be as approved by the Employer's Agent.

With the exception of the standard SANS approved cement blends supplied by the primary cement producers, the blending of CEM I and extenders shall not be permitted unless specifically approved by the Employer's Agent on the basis of an acceptable quality assurance procedure."

Water

Add the following:

"Water for concrete other than prestressed concrete, shall not contain chlorides, calculated as sodium chloride, in excess of three thousand parts per million (3 000 ppm) nor sulphates, calculated as sodium sulphate, in excess of two thousand parts per million (2 000 ppm).

Water for curing concrete shall not contain impurities in sufficient amount to cause discolouration of the concrete or produce etching of the surface.

No seawater or water containing salts shall be used.

No water shall be added on site to ready-mixed concrete prior to placing to improve workability. All concrete delivered to site shall be checked for workability using the slump cone test and slump measured outside the limit set from the design mix shall be rejected."

Admixtures

Add the following subclauses:

"(v) Admixtures, which have a retarding effect on the rate of hydration of the cement, may not be used when the concrete temperature is below 20 °C.

A retarding admixture shall be used if temperatures of concrete mixes using cements of strength class 42,5 or higher are between 20 °C and 30 °C or where the ambient temperatures are between 20 °C and 30 °C."

Add the following:

"Note: Only admixtures of the type that do not increase the water content of the mix will be considered by the Employer's Agent. In addition, no admixtures shall be added on site to ready-mixed concrete prior to placing to improve workability."

B6404 CONCRETE QUALITY

Strength concrete

Add the following after the fifth paragraph:

"The minimum cement content of structural concrete shall be 340 kg/m³."

Bleeding

Delete the existing paragraph and replace with the following:

"The concrete shall be proportioned with suitable materials that total bleeding does not exceed 0,3 mm/cm² as measured by ASTM C232-92."

B6408 CONSTRUCTION JOINTS

General

Add the following:

"No construction joints other than those indicated on the drawings will be permitted without the written approval of the Employer's Agent. In all cases the proposed method of forming the joint shall be discussed and agreed with the Employer's Agent."

B6409 CURING AND PROTECTION

Add the following to the end of subclause B6409(f):

"Where a curing compound is used, it shall consist of an approved water-based low-viscosity clear wax emulsion, applied in accordance with the manufacturer's instructions."

Add the following paragraphs to the end of the clause:

"Where curing by retention of formwork is used as the only method of curing the concrete, it must be left in place for the minimum period specified in Table 6206/1 but in no instance shall it be less than seven (7) days.

The materials used for formwork shall take into account properties such as thermal insulation and moisture absorption when assessing the suitability of the material, to the approval of the Employer's Agent.

If impermeable curing membranes are to be used as a curing method, they shall be installed at the same time as formwork is removed and no portion of a concrete surface may be left unprotected for a period in excess of 2 hours. If the surface is an unformed finish e.g. top of deck slab, then the surface must be protected immediately by appropriate methods approved by the Employer's Agent after it is finished, without damage to that surface, since it is vulnerable to plastic shrinkage cracking due to high rates of evaporation while the concrete is still in a plastic state. Plastic shrinkage and settlement shall not be permitted on any of the structural elements since it compromises the durability of the concrete. In order to prevent early settlement and shrinkage of the concrete, the concrete placed shall be vibrated after initial compaction while the concrete is still in a plastic state. Any remedial measures shall be as approved in writing by the Employer's Agent. On bridge decks, the top surface shall be cured using the method described in subclause 6409(d), i.e. constantly spraying the entire area of exposed surfaces with water.

For all concrete, curing shall be excluded from the make-up of rates for measurement under payment items B64.01 and B64.02 and will be paid for separately under payment item B64.07. Where the application of a curing compound is used, the type and nominal application rate thereof shall be as specified in the schedule of quantities or to the manufacturer's nominal specified rates."

B6410 ADVERSE WEATHER

Add the following new subclause:

"(d) Temperature and hydration of concrete

Site batched concrete: The temperature of concrete delivered to site shall be within the range 10 °C to 30 °C. Concrete which has a temperature outside of this range shall not be placed in the structure.

In the case of ready-mixed concrete the temperature limits at point of delivery shall be as specified in SANS 878 unless the Employer's Agent has specified other limits due to specific design requirements. If slump loss occurs at concrete temperatures of over 30 °C and more than 2 hours after mixing, the concrete shall be rejected. Also if after addition of allowed water the concrete begins to stiffen again such as to place in doubt that full compaction and finishing can be achieved, the concrete shall be rejected. Care must also be taken not to cast concrete onto hot steel shutters as this might induce cracking.

The rate of hydration of the cement in the concrete shall be such that the concrete can be placed and properly compacted within 2 hours after the addition of water to the mix ingredients. The initial set of the concrete shall not be unduly delayed due to inappropriateness of admixtures or cement type, which could promote bleeding."

B6413 PRECAST CONCRETE

Add the following final paragraphs:

"Precast concrete units shall comply with the requirements of the latest SANS 986 specification.

Prior to the manufacture of any units the manufacturer shall submit his quality plan to be approved by the Employer's Agent. The quality plan must incorporate all requirements and frequency for durability index testing, i.e. sorptivity, oxygen permeability, chloride conductivity (if required) and cover testing. As part of the quality plan submitted for approval, copies of calibration certificates of both gauges used for proof loads, and cover meters used at the factory, shall be supplied to the Employer's Agent. The originals of these certificates shall at all stages also be available for inspection at the factory premises. The manufacturer shall check each precast unit for cover compliance, and random checking of units shall not be permitted. The Employer's Agent's Representative may visit the factory at any stage to ascertain adherence to the quality plan, including test results from the durability index testing, as well as to check covers before delivery to site. Any substandard cover shall result in the applicable structural element or part thereof being rejected. Should the manufacturer not be adhering to their quality plan, the Employer's Agent may exercise the right to reject the use of products from the manufacturer concerned. The Employer shall also be informed in all such cases.

For durability requirements due to the reduced cover provided for precast culverts, all such durability testing shall be done in accordance with subclause B6404(h)."

B6414 QUALITY OF MATERIALS AND WORKMANSHIP

Criteria for compliance with the requirements

Add the following paragraphs after the first paragraph:

"The cores shall be taken from the trial panels cast using the design mixes made in the laboratory. Where the Site is remote from the laboratory, the trial panels may be cast at the laboratory in accordance with the requirements of subclause B8106(g).

In the event that for Class 'W' concrete strength requirements the actual achieved average cube strengths of an element are less than 85% of the target mean strength needed to meet durability requirements or less than 100% of the target mean strength to meet strength requirements, it may result in the durability parameters not

meeting the prescribed targets and the Employer's Agent will instruct the taking of cores from the test panel and structure for additional testing. The cost of these in situ tests shall be borne by the Contractor cost.

The approved quality control criteria for process control testing for durability concrete shall be coring and testing of test panels. The frequency of manufacture and coring of test panels shall be as ordered by the Employer's Agent and indicated in Table B8106/1 and Table B8106/2.

Tests numbers B8106(g)(i), B8106(g)(ii) and B8106(g)(iii) (when required), shall be conducted on cores extracted from the test panels when the concrete reaches the age of at least twenty-eight (28) days. To allow for variability in the material potential, the type of chloride conductivity values shall be limited to 90% of the values indicated in Table B6404/5. Test no. B8106(g)(iv) shall be conducted to confirm that the specified depth of concrete cover has been achieved. The frequency of these tests shall be as described under subclause B8106(g). The test results shall be accepted or rejected on the criteria set out in Table B6404/4 and Table B6404/5 based on the following categories:

Full acceptance

Concrete shall be accepted unconditionally and full payment shall be made.

Conditional acceptance

Concrete may be accepted, based on the cube strength and durability index results with a warning that construction methods be examined to improve the durability criteria. A reduced payment shall be applied to all the relevant payment items of the specific element under Section B6300 where the cover requirements are not achieved and Section B6400 where the oxygen permeability and strength requirements are not achieved for the non-conforming element or concrete pour as set out in Table B8212/1 and Table B8212/2. The decision to accept the substandard concrete at reduced payment shall rest solely with the Employer.

Should the test result(s) indicate conditional acceptance of the element tested, the Contractor shall have the option of carrying out additional tests (on four (4) extracted cores) on that element of the structure, at his own expense to confirm or disapprove the original test result(s). These cores shall be extracted within fifty-six (56) days from the date of the element being cast.

Should the additional test confirm the original test result, then the original test result shall serve to determine payment in accordance with Table B8212/1 and Table B8212/2.

Should the additional test show that the structure meets the targets, the penalty shall be halved.

Rejection

The concrete shall be removed and replaced with fresh concrete at the expense of the Contractor, as directed by the Employer's Agent."

Procedure in the event of non-compliance with the requirements

Replace subclause (i) with the following:

"The use of core testing for acceptance control shall be at the sole discretion of the Employer's Agent and shall generally only be permitted where it can be proved that either the cube making, curing or testing procedure has contributed to poor cube test results.

Before the cores are drilled, the members concerned shall be cured and allowed to age twenty-eight (28) days, where after the cores shall be drilled and tested within seven (7) days. The concrete age shall thus not exceed thirty-five (35) days at the time of testing. Cores shall be drilled in accordance with SANS 5865, and the Employer's Agent will evaluate these cores in accordance with SANS 10100 - Part 2."

Add the following new subclause:

"(iii) Structural concrete elements or concrete pours shall be represented by test cubes and extracted cores which shall be tested for strengths and the appropriate durability parameters. If the durability parameters are acceptable, the costs for such testing shall be borne by the Employer. However,

where non-compliance to the specified parameters has been identified, the assessed element shall be rejected and, at the Employer's Agent's sole discretion, any of the following measures may be considered at the Contractor's expense:

Coating with an approved product specifically designed to improve the non-conforming parameter depending on the severity of the test results

Acceptance at reduced payments

Demolition and rebuilding

Where the Employer's Agent allows conditional acceptance, reduced payment shall be applied to all the relevant payment items under Section 6300 and Section 6400 for the non-conforming element or concrete pour according to the Table B8212/1."

Replace clause 6415 with the following:

"B6415 PARTIAL DEMOLITION AND EXTENSION OF EXISTING STRUCTURES

Where parts of existing structures have to be demolished (without extensions to these structures), these parts shall be cut to predetermined lines and levels. If the concrete is reinforced, the reinforcement shall be exposed and cut off at a depth giving the required cover, and the exposed face shall be restored as specified in clause 6408. The debris shall be removed and disposed of at approved dumping sites provided by the Contractor.

Where partial demolition is required for extension work to existing structures, the contact face shall be cut to predetermined lines and levels. Loose material shall be removed and disposed of at approved dumping sites provided by the Contractor. Projecting steel shall be cleaned and bent as directed by the Employer's Agent.

Where extension work is required without partial demolition, the contact surface shall be roughened and cleaned of all dirt and loose particles.

If required, dowels shall be installed in holes drilled into the existing structure in accordance with the details on the drawings, and shall be secured by means of an approved epoxy resin grout.

New concrete shall be bonded to existing concrete with a cement paste or slurry or an approved epoxy resin slurry.

All such work shall be carried out without damaging the rest of the structure."

B27 SECTION B7300: CONCRETE BLOCK PAVING FOR ROADS

B7304 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING BEFORE THE ITEMS:

"No additional or extra over payment will be made for work in restricted or confined areas."

"Item	Unit
-------	------

B73.03 Provision of approved herbicide/fungicide and ant poison:

Remove and replace "... ant poison and herbicide and ..." with "... ant poison, herbicide and fungicide and ...".

ADD THE FOLLOWING PAYMENT ITEMS:

"Item	Unit
-------	------

B73.04 Concrete bollards:

(a) Standard 250 mm diameter bollardnumber (no)

The unit of measurement shall be the number of concrete bollards installed.

The tendered rate shall include full compensation for the furnishing of all materials and equipment, work in restricted areas and all transport and finishing necessary to install the concrete bollards as indicated on the drawings to the satisfaction of the Employer's Agent.

ADD THE FOLLOWING ITEMS:

"Item	Unit
B73.05 Removing and stacking existing all types and sizes of paving on restricted areas where NMT facilities are to be constructed, including transport where necessary	m²

The tendered rate shall include full compensation for the removing, transporting and storing all types and sizes of NMT facilities and also labour and equipment to work in restricted areas to the satisfaction of the Employer's Agent.

"Item	Unit
B73.06 Reinstating all types and sizes of existing paving on restricted areas left exposed after NMT facilities have been constructed including finishing off on the areas	m²

The tendered rate shall include full compensation for the transporting and reinstating all types and sizes of NMT facilities and also labour and equipment to work in restricted areas to the satisfaction of the Employer's Agent.

B28 SECTION 8100: TESTING MATERIALS AND WORKMANSHIP

B8102 TESTING METHODS

INSERT THE FOLLOWING AS A NEW FIRST PARAGRAPH:

"Where reference is made to TMH test methods in this specification or the standard specifications, it shall be replaced with the relevant current published SANS test method."

B8104 TAKING AND SUBMITTING SAMPLES

ADD THE FOLLOWING TO THE THIRD PARAGRAPH:

"A minimum period of six (6) weeks, before commencement of any related work, is required for the submission of asphalt or concrete mix designs for approval by the Employer's Agent."

B8105 TESTING THE AGGREGATES

ADD THE FOLLOWING SUBCLAUSES:

"(g) Ethylene glycol weathering test for durability of Type G1 and Type G2 graded crushed-stone base material

The ethylene glycol durability index shall be determined as follows:

Apparatus

Suitable pans or basins
Ethylene glycol solution
Stirring rod

Method

Obtain three (3) or more representative samples from the source to be evaluated.

If not already crushed, crush the material in order to obtain sufficient minus 20 mm plus 14 mm sized aggregate in order to totally cover the bottom of the basin or pan with a single layer of stone. Add sufficient ethylene glycol to each basin ensuring that every aggregate particle is completely submerged.

After soaking for 24 hours, gently stir the aggregate, allow to settle and observe and record the response of the aggregate to the ethylene glycol according to the criteria listed in subclause B8105(g)(iii) below. Continue the above cycle at intervals of 24 hours for a further four (4) days, in each case recording the observed response. After five (5) days allow the samples to remain submerged in the solution and observe and record the disintegration response after a total period of fifteen (15) days, thirty (30) days and sixty (60) days has elapsed.

Classification of response

After each cycle, classify and record the response of the aggregate as follows:

Disintegration class

Class 1: No obvious effects, or only very minor spalling of sand-sized particles or very small flakes
Class 2: Splitting of rock, accompanied by any other disintegrative effects
Class 3: Fracturing (spheroidal and/or internal) without extensive spalling or distortion
Class 4: Fracturing (spheroidal and/or internal) with extensive spalling or distortion
Class 5: Complete disintegration

Time class

The time factor in the above disintegrative process is classified according to the time taken for the most serious effect of the expansive stresses to occur, i.e.

Class 4: 0 - 5 days
Class 3: 6 - 15 days
Class 2: 16 - 30 days
Class 1: 31 - 60 days
Class 0: Over 60 days

Determination of glycol durability index

The ethylene durability index is determined by adding the class number as assigned for the specific disintegrative response observed to the class number as assigned for the period for this response to occur. A durability index ranging from 1 (no response) to 9 (rapid and complete disintegration) is thus determined.

Ethylene glycol weathering test for durability of aggregates used in seals and asphalt

Select 100 number single-sized chippings from a representative sample retained on the 14 mm sieve but passing the 20 mm sieve. The selected aggregate chippings shall be oven dried for 12 hours and the mass of the chippings shall then be determined to the nearest 0,001 kilogram. The chippings shall then be immersed in ethylene glycol contained in a glass container for twenty-eight (28) days. After twenty-eight (28) days the chippings shall be removed from the ethylene glycol and oven dried for 12 hours. All friable and loose pieces shall then forcibly be removed by fingers from the chippings. The mass of the chippings shall then be determined, and the percentage weathering loss shall be calculated from the results.

Acceptance criteria

Only aggregates that show a breakdown after twenty-six (26) days in ethylene glycol of less than 2% shall be used in seals or in asphalt.

Ethylene glycol weathering test for durability of aggregates used in concrete

A 2,0 kg sample of single-sized (20 mm) stone is washed, air dried and then soaked in ethylene glycol for six (6) days.

On the sixth (6) day the sample is removed from the ethylene glycol, washed thoroughly with tap water and oven dried overnight.

A conventional dry sieve analysis is carried out on day seven. The sample is re-submerged in ethylene glycol and the above 7-day cycle is repeated.

On day fourteen, following the dry sieve analysis, the sample is again submerged in ethylene glycol and allowed to stand for a further thirteen (13) days.

After thirteen (13) days the sample is removed from the ethylene glycol, washed and oven dried overnight.

On day twenty-eight (28) the final sieve analysis is carried out.

Photographs of the rock samples are to be taken after each of the above cycles.

Acceptance criteria

Only aggregate that shows a breakdown of the initial sizes of less than 20% by weight after the twenty-eight (28) days testing in ethylene glycol shall be used as coarse aggregate in concrete."

B8108 DETERMINING THE TOTAL APPROXIMATE DRY BULK RELATIVE DENSITY AND THE APPARENT DENSITY

Add the following at the end of this clause:

"For materials where the total water absorption, when determined according to TMH1 Methods B14 and B15, is in excess of 1,5%, the apparent density shall be calculated in accordance with the following formula:

$$(b - a)$$

$$(d - a) + \{ (w - 1,0) \times (b - a) \} - (b - c)$$

This formula shall be used as an alternative to note (5) regarding the soaking period, when so instructed by the Employer's Agent."

B8109 TESTING TAR, BITUMEN AND ASPHALT

Tests described in the standard specifications for tars, bitumen and bituminous emulsions

ADD THE FOLLOWING:

"The Contractor shall submit all relevant test results of the tests stated above to the Employer's Agent for approval, prior to any bituminous surfacing being applied to any section of road.

The Contractor shall supply a delivery sheet as well as a bitumen sample (this sample of one (1) litre minimum must be contained in a galvanized tin and properly cross-referenced) for every single batch of tar or bituminous product that is delivered to the Site, and shall issue the same to the Employer's Agent.

The delivery sheet must state the product delivered to site, the name and address of the manufacturer, as well as the compliance of the product to all relevant SANS specifications.

Only after the Employer's Agent has received the relevant information and approved it, may the Contractor commence with the bituminous surfacing."

ADD THE FOLLOWING SUBCLAUSES AFTER SUBCLAUSE B8109(D):

"(e) Conventional dynamic creep test

The conventional dynamic creep test shall be carried out as outlined in Sabita Manual 13, and under the following conditions:

- Temperature : 40 °C and 60 °C
- Axial load magnitude : 100 kPa
- Loading type : 0,5 Hz square waveshape
- Duration of test : 3 600 cycles

It is a prerequisite in this project that a suitable grease followed by graphite powder be applied to the ends of each specimen. The grease shall be applied sparingly, just enough for the sprinkled graphite to stick. The objective of this exercise is to provide a frictionless interface between the platens and the specimen.

In addition to the dynamic creep modulus, the dynamic creep slope between the primary point and the end point shall be determined. The primary point is defined as the point where the change in the accumulated permanent deformation is less than 1% and the end point is defined as 3 600 cycles.

Modified dynamic creep test

This test is similar to the conventional test, except that it has to be done on a 150 mm specimen with 75 mm loading plates. The test is expected to give better accuracy, as well as better repeatability and reproducibility.

Determination of the elastic properties of binders using the standard ductilometer

Ductilometer briquettes are to be prepared in the standard manner for ductility measurements. The bath temperature is maintained at 10 °C and the samples immersed for 90 minutes prior to the test.

The briquettes are elongated at the standard rate of 50 mm/min until they have been stretched 200 mm. They are held in this position for 5minutes after which the threads are cut approximately in half by scissors.

The briquettes are left undisturbed for one hour after which the half-sample specimens are retracted until the two (2) broken ends touch. The elongation at this point (X mm) is noted and the percentage recovery determined from:

$$\% \text{ recovery} = \frac{200 - X}{200} \times 100\%$$

B8110 TESTS RELATING TO CHEMICAL STABILIZATION

Add the following subclause:

“(d) The wet-dry durability test for cement and/or lime-treated materials using the hand-brush method (SANRAL method)

Scope

This method covers the procedure for determining the soil-cement losses obtained by repeated wetting, drying and hand brushing of hardened soil-cement specimens (see 5.4).

Apparatus

A moisture curing room capable of maintaining a relative humidity of 95% to 100% and a temperature of 22 °C to 25 °C, or suitable plastic bags capable of holding specimens and carriers in an air-tight condition in a water bath as described in subclause B8110(d)(ii)(2) below.

A suitable water bath with thermostatic control capable of maintaining a temperature of 22 °C to 25 °C.

A balance to weigh up to 10 kg, accurate to 0,5 g.

A drying oven capable of maintaining temperatures of 71 ± 3 °C and 110 ± 5 °C.

A wire scratch brush made of 50 mm by 1,6 mm flat 26-gauge wire bristles assembled in 50 groups of 10 bristles and mounted to form five (5) longitudinal rows and ten (10) transverse rows on a 200 mm by 65 mm wooden block.

Method

Preparation of specimens

Prepare specimens in accordance with the procedure described in the Appendix to Method A19 in the TMH1 with the following exceptions:

Use the material passing the 37,5 mm sieve and discard the material remaining on the sieve.

Use the apparatus and compaction method as described in TMH1 Method A7 (100% of modified AASHTO density at predetermined OMC).

Curing of specimens

Rapid cure the specimens (see subclause B8110(d)(v)(6)). Alternatively, and where instructed by the Employer's Agent, the specimens may be cured for seven (7) days at a relative humidity of 95% to 100% and a temperature of 22 °C to 25 °C in a suitable curing room or in plastic bags and a suitable water bath.

Wetting, drying and brushing

After curing, remove the specimens from the curing room or plastic bags, allow to cool and submerge them in water at room temperature for a period of 5 hours. Remove the specimens from the water and place them in an oven at 71 °C for 42 hours.

Remove the specimens from the oven. Give each specimen two (2) firm strokes over the full surface area with the wire scratch brush. The brush must be held parallel to the long axis of the specimen or parallel to the ends as required to cover all areas of the specimen. Apply these strokes to the full height and width of each specimen with a firm stroke corresponding to approximately 13,5 kN force (see subclause B8110(d)(v)(5)).

Determination of soil-cement losses

After twelve (12) cycles, dry the specimens to a constant mass at 100 °C and determine the oven-dry mass of the specimens. The data collected will permit the calculation of the soil-cement losses of the specimens after the prescribed 12-cycle test.

Calculations

Calculate the soil-cement loss of the specimens as a percentage of the original oven-dry mass of the specimens as follows:

$$L = \frac{W - N}{W} \times 100$$

where

L = soil-cement loss (%)

W = original calculated oven-dry mass (g) (calculated according to paragraph 3.5 in the Appendix to Method A19 in the TMH1).

N = final oven-dry mass (g)

The percentage loss shall be calculated and reported to the nearest 0,1%. The results are normally required for stabilization design purposes and should be reported graphically against relevant cement contents.

Notes

Mass determinations of the specimens before and after brushing are usually made at the end of each cycle during research or special investigations.

Care is required when assessing results obtained on very coarse-graded materials as 'plucking' out of the aggregate pieces during the brushing process could result in very high losses of material, which may however not be truly indicative of its potential erosion resistance.

If it is not possible to run the cycle continuously because of Sundays or holidays, or for any other reason, the specimens should be held in the oven during the layover period.

The test was originally developed to determine wet-dry durability of cement-treated material. It can, however, be used with equal success on material tested with other chemical stabilizers, for example lime, or mixes of lime and milled blast furnace slag, or cement and milled blast furnace slag.

The pressure of the brushing stroke is determined as follows:

Clamp a specimen in a vertical position on the edge of a platform scale and zero the scale. Apply vertical brushing strokes to the specimen and note the force necessary to register approximately 1,36 kg.

Rapid curing:

Seal each specimen in a suitable airtight container or plastic bag. Carefully place the briquettes on suitable holders or in pans and place in the oven at the relevant temperature and for the period given below:

STABILIZING AGENT	TEMPERATURE (°C)	TIME (HOURS)
Cement	70 - 75	24 ± 0,5
PBFC	70 - 75	24 ± 0,5
Lime	60 ± 2	45 ± 1
Lime/FA	60 ± 2	45 ± 1
Lime/MBFS	60 ± 2	45 ± 1

"

B8114 GEOTEXTILE AND GEOTEXTILE – SOIL COMPACTIBILITY TESTS

Add the following new subclause:

Other Tests:

Thickness (mm):

The thickness of the material shall be specified by the Contractor (or supplier).

Thickness and compressibility tests shall be carried out in accordance with SANS 10221: The testing of geotextiles, to check that the material supplied conforms to the thickness specified by the Contractor.

Mass per unit area (g/m²):

Testing shall be carried out in accordance with SANS 10221.

Tensile strength (kN/m):

Penetration load (kN):

Puncture resistance (mm):

Testing shall be done in accordance with the test procedures laid down by the CSIR, Pretoria.

Permeability (litre/s/m²):

Testing shall be carried out in accordance with SANS 10221."

Add the following clauses:

"B8118 TESTS ON RETRO-REFLECTIVE MATERIAL FOR USE ON ROAD SIGNS

On-site testing of the retro-reflective properties of road signs shall be done with a field retro-reflectometer measuring at an entrance angle of 5,0° and an observation angle of 0,33°. The coefficient of retro-reflection so determined shall not be less than the relevant values given in Table B8118/1 below. The coefficients of retro-reflection are expressed in candelas per lux per square metre (cd/(lux/m²)).

TABLE B8118/1: COEFFICIENTS OF RETRO-REFLECTION

1	2	3	4	5	6	7	8	9	10	11
CLASS	OBSERVATION ANGLE (DEGREES)	ENTRANCE ANGLE (DEGREES)	COEFFICIENT OF RETRO-REFLECTION FOR DIFFERENT COLOURS OF MATERIAL WHEN MEASURED WITH STANDARD ILLUMINANT A* (cd/(lux/m ²)) MINIMUM							
			Red	Orange	Yellow	Green	Blue	Purple	White	Brown
I	0,33	5	10	20	35	7	3	2	50	3
II	0,33	5	20	40	70	14	6	4	100	6
III	0,33	5	30	60	105	21	9	6	150	9

*See CIE Publication 15 (E-1.3.1)

B8117 MEASUREMENT AND PAYMENT

Amend payment item 81.02 as follows:

Acceptance control testing as required by the Employer's

B81.04 Agent :

(a) Cost of testing (Prov) sum
(b) Handling costs and profit in respect of subitem B81.02(a) above percentage (%)

The provisional sum provided to cover the cost of special tests as requested by the Employer's Agent in terms of clause 8115 shall be expended in accordance with the provisions of the Conditions of Contract. Payment will not be made for any special test should the test indicate that the specifications have not been complied with.

The percentage tendered is a percentage of the amount actually spent under subitem B81.02(a) which shall include full compensation for the handling costs of the Contractor and the profit in connection with the tests requested by the Employer's Agent.

The Contractor shall appoint an accredited and reputable company to perform the applicable tests with a field retro-reflectometer. This company is subject to the Employer's Agent's approval and his approval must be obtained before any test results will be accepted.

Tests on the painted gantries shall also be performed by qualified personnel. These tests shall, *inter alia*, include checks on film thickness, workmanship and quality control."

PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

C3.5 PARTICULAR SPECIFICATIONS

In addition to the Standardized and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

SECTION PS	EXPANDED PUBLIC WORKS PROGRAMME (EPWP) LABOUR INTENSIVE SPECIFICATION
SECTION PC	TRIMMING OF SITE
SECTION PD	MAINTENANCE
SECTION PE	CONTINGENCIES
SECTION PF	ELECTRICAL WORK
SECTION PG	ENVIRONMENTAL MANAGEMENT PLAN
SECTION POHS	OHSA 1993 SAFETY SPECIFICATION

PS 8 EXPANDED PUBLIC WORKS PROGRAMME (EPWP) LABOUR INTENSIVE

SPECIFICATION (*Read with SANS 1914 -5 2002 and Guidelines for the implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP) second edition 2005*)

8.1 Labour intensive competencies of supervisory and management staff

Contractors having a CIDB Contractor grading designation of 4CE and higher only shall engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the Contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a Contractor grading designation of 1CE, 2CE, 3CE and 4CE shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such Contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	This unit standard must be completed, and any one of these 3 unit standards
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	This unit standard must be completed, and any one of these 3 unit standards
Construction Manager / Manager (i.e. the Contractor's most senior	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

representative that is resident on the site)			
--	--	--	--

8.2 Employment of unskilled and semi-skilled workers in labour-intensive works

8.2.1 Requirements for the sourcing and engagement of labour.

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

8.2.1.3 Tasks established by the Contractor must be such that:

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

8.2.1.4 The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 5.2.1.3.

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

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

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

- 55% women;
- 40% youth who are between the ages of 18 and 25; and
- 2% on persons with disabilities.

8.2.2 Specific provisions pertaining to SANS 1914-5

8.2.2.1 Definitions

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

8.2.2.2 Contract participation goals

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

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

8.2.2.3 Terms and conditions for the engagement of targeted labour

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

8.2.2.4 Variations to SANS 1914-5

The definition for net amount shall be amended as follows:

Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the Contractor.

The schedule referred to in 5.2.2.3 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

8.2.2.5 Training of targeted labour

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

The cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The Contractor, must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

A copy of this training request made by the Contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works– Cinderella Makunike, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel: 083 677 4026.

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

The Contractor shall do nothing to dissuade targeted labour from participating in training programmes.

An allowance equal to 100% of the task rate or daily rate shall be paid by the Contractor to workers who attend formal training, in terms of d above.

Proof of compliance with the requirements of b to f must be proven.

8.3 Typical construction work to be executed applying labour intensive principles

- Edge beams
- Concrete Kerbing
- Concrete Block Paving
- Road Signs
- Road Markings
- Electrical Works
- Landscaping
- Stormwater Drainage infrastructure

PC TRIMMING OF SITE**PC1 SCOPE**

This work shall consist of the finishing of the entire site affected by the Contractor's operations before the issue of the Completion Certificate.

PC2 REQUIREMENTS

After completion of the work covered by this Contract, the entire area affected by the Contractor's operations shall be finished off and cleared up and all loose rock shall be removed, if required, and disposed of as directed by the Employer's Agent.

Under no circumstances shall the Contractor use machines for trimming.

All loose stones, roots or other waste matter exposed on fill or excavation slopes, which are liable to become loosened shall be removed and all debris and muck from clearing operations shall be disposed of and the area affected by the Contractor's operations and all camp sites left in a neat and presentable manner.

All false work, temporary supports and structures, casting yards or platforms and equipment shall be removed from the site and from all ground occupied by the Contractor in connection with the work. All parts of the work and adjacent ground shall be left in a neat and presentable condition, all to the satisfaction of the Employer's Agent.

PC3 MEASUREMENT AND PAYMENT

Measurement and payment for complying with the above requirements will not be made separately and would be regarded as being provided for in full by relevant payment items under 1200 A - General.

PD MAINTENANCE**PD1 MAINTENANCE DURING CONSTRUCTION**

From the time of taking over the site by the Contractor, as set out in the Special Conditions of Contract until the acceptance of the work and the issue of the Completion Certificate, the Contractor shall be responsible for the maintenance of the work and shall rebuild, repair, restore and make good at his own expense all injuries or damages to any portion thereof whether occasioned by the action of the elements or any other cause.

PD2 MAINTENANCE OF COMPLETED WORK**Periods of Maintenance**

The periods of maintenance for each completed section of work shall extend for twelve months from the time of acceptance of the work and the issue of the relevant Completion Certificate for that section of the work as the case may be as set out in Clause 53 of the General Conditions of Contract.

PD2.1 Work during Period of Maintenance

The Contractor shall be responsible for the repair at his own expense, of all defects in any of the works constructed by him, or affected by him during construction, all in terms of Clause 53 of the General Conditions of Contract.

PD3 MEASUREMENT AND PAYMENT

Measurement and payment for maintenance as described above shall be deemed to be included in the prices tendered and paid for the various items for which payment is made in terms of this Contract and such prices shall be full compensation for the supply of all supervision, labour, materials, equipment, plant and work necessary for the maintenance thereof.

The retention monies as set out in the General Conditions of Contract, Clause 49 (3) shall be released only upon Final Settlement of the Contract as set out in Clause 52 of the General Conditions of Contract

PE CONTINGENCIES

PE1 CONTINGENCIES

An amount to be spent in part or in whole at the complete discretion of the Employer's Agent. This amount shall not form part of the 15% as is defined in Clause 50 of the General Conditions of Contract.

C3.5.1 PF ELECTRICAL WORKS

POLOKWANE MUNICIPALITY
BUSINESS UNIT ELECTRICAL SERVICES
SUPPLY AND DELIVERY OF STREETLIGHT LUMINAIRES

Technical Product Specifications



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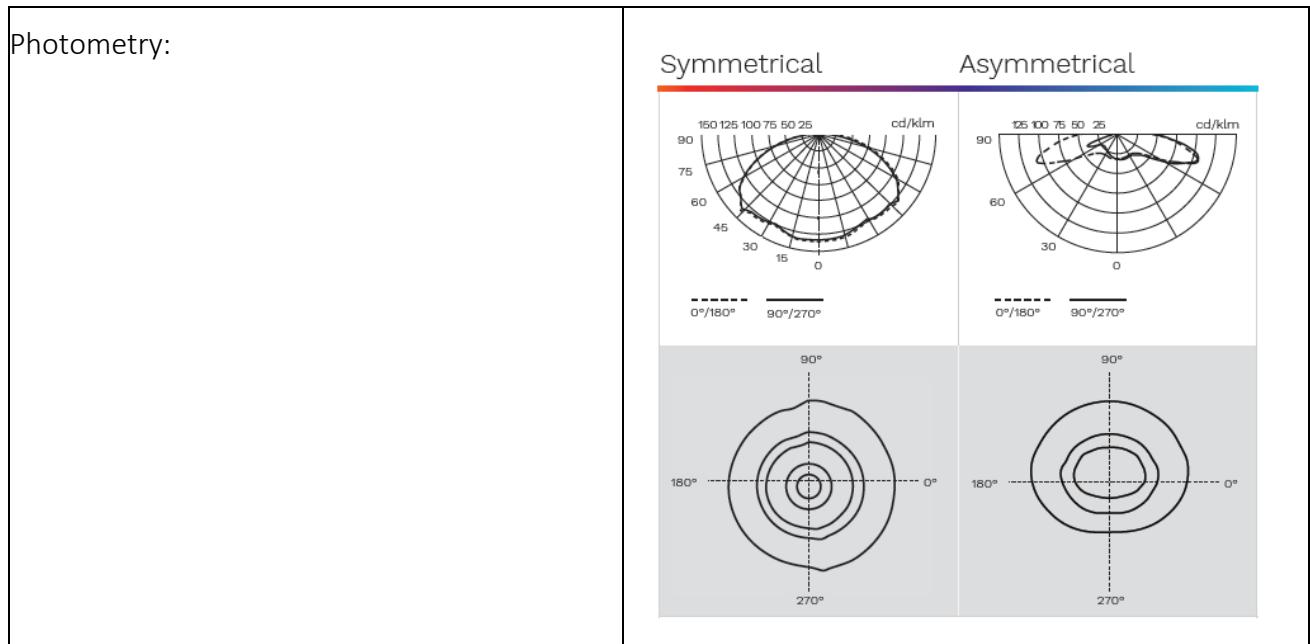
1. General Specifications

Product Description	This post top luminaire provides a new contemporary design for a well-known shape using state-of-the-art LED technology. 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. The luminaire emits a pleasant, glare-free light due to the highly efficient white reflector (symmetrical light distribution). A faceted reflector is available as an option (asymmetrical distribution). The complete luminaire is sealed to IP 66. Electronic temperature monitoring prevents overheating of LEDs and power supply, positioned directly next to LEDs (ThermiX®). It is designed for LED light sources between 19W and 43W.
Main applications	<ul style="list-style-type: none">○ Group B Road Lighting○ General Area Lighting○ Parks and Garden○ Security Lighting
Recommended mounting height	3 – 6m

2. Photometry

Light source	LED
LED	2mm ² LED
Colour temperature	4000K (Neutral White 740) Optional - 5700K (Cool white 757)
Colour rendering (Ra)	>70 (Neutral White 740) Optional - >70 (Cool White 740)
Lumen package 19W to 43W	2730lm to 6300lm * see table below

Optics	Symmetrical, Asymmetrical
--------	---------------------------



	Overview					Lifetime Residual Flux @ Tq 25°C
Number of LED's	Neutral White (4000K)	8 LED's	12 LED's	16 LED's	24 LED's	@100.000h
LED Current: 550mA**	Nominal Flux (lm)*	-	-	-	6300	70%
	Power Consumption (W)	-	-	-	43	
LED Current: 600mA**	Nominal Flux (lm)*	-	3460	-	-	70%
	Power Consumption (W)	-	23	-	-	
LED Current: 700mA**	Nominal Flux (lm)*	2730	-	5320	-	70%
	Power Consumption (W)	19	-	37	-	

(*) The type of LED used is subject to change due to the ongoing rapid progress taking place in LED technology

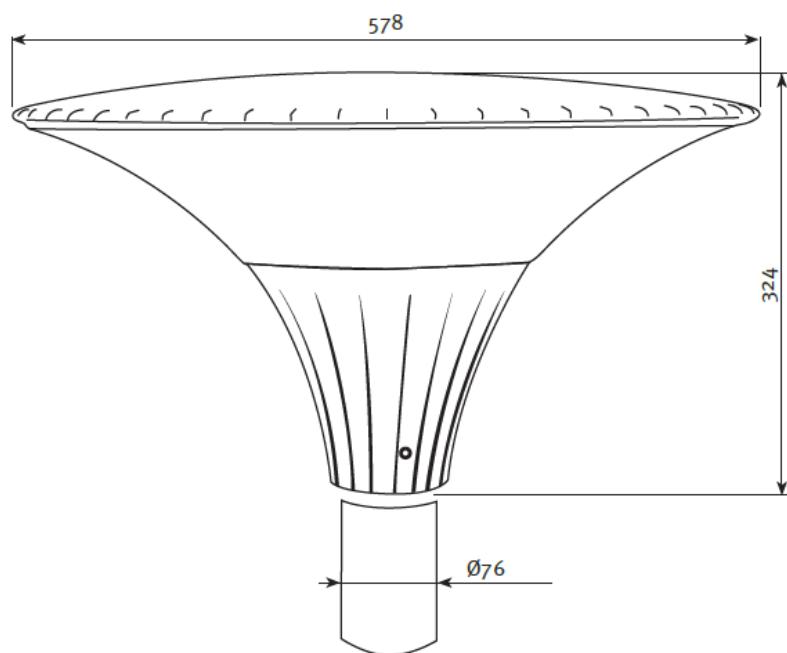
(**) LED Current

3. Mechanics

Electronic control Gear	Constant Current Driver IP 66
Materials and finishing	<p><i>Base</i> – High-pressure die-cast marine grade aluminium (EN 1706 AC-44300)</p> <p><i>Diffuser</i> – A clear or opal non-discolouring high impact acrylic injection moulded diffuser.</p> <p><i>Optional</i> : Polycarbonate</p>

	Top Cover – Acrylonitrile Styrene Acrylate (ASA)
Finish	RAL colours on request

Installation	Pole Mount ($\phi 76\text{mm}$)
Fixing	6 x ϕ M6 Grub Screws
Dimensions (W*H)	$\phi 578 \times 324$
Weight (with gear)	4.9kg
Access	Yes
Aerodynamic resistance (CxS):	0.082 m^2



4. Electrical Characteristics

Line Voltage	230VAC
Mains voltage Tolerance (AC)	198-264VAC

Line frequency	50Hz	
Electrical Safety Class (IEC)	Class I or II	
Surge protection	Yes	- 10kV/10kA
Lighting control	Yes	- 10kV/10kA

5.Power Supply

Power Factor	≥0.95
Removable	Yes
Thermal Safety	Yes

6.Environment

Storage temperature	- 40 ⁰ C to +60 ⁰ C
Operating temperature (Ta)	- 35 ⁰ C to + 35 ⁰ C
Enclosure Tightness	IP 66
Enclosure Mechanical Withstand Impact	IK 08
Enclosure Mechanical Withstand Vibrations	Modified IEC 60068-2-6

- o * Certified Test Standard SANS IEC 60598 -2-3 (available on request)

POLOKWANE MUNICIPALITY

BUSINESS UNIT: ELECTRICAL SERVICES

SUPPLY AND DELIVERY OF STREETLIGHT LUMINARIES

Schedule of Prices

STREETLIGHTS		NETT PRICE VAT INCLUDED	SABS MARK	DELIVERY PERIOD	PREFERENCE CLAIM	SETTLEMENT DISCOUNT FOR 30 DAYS	PRICE VARIATION	NAME OF MANUFACTURER
STREETLIGHT LUMINARY * ➤	24LED/43W/OPTIC 5117							

* With thermac c/b and daylight switch
➤ Without thermac c/b and daylight switch

NOTE : PRICES WILL INCLUDE TRANSPORT AND DELIVERY AT POLOKWANE MUNICIPALITY STORES

Sir

I/we the undersigned hereby tender for the supply and delivery of the Streetlight Luminaries as specified in this contract.

I/we understand and agree that the Council will not necessarily accept the lowest or any tender, and reserves the right to accept a portion of the tender and to subdivide the contract, or to extend the contract.

I/we understand that in the event of my/our tender being accepted, I/we shall forthwith and without delay take all steps to fulfil the requirements of this contract.

NAME OF TENDERER (FIRM):

.....

ADDRESS * :

.....

TELEPHONE NUMBER :

FAX NUMBER :

DATE :

WITNESSES :

1.

2.

SIGNATURE OF TENDERER (FIRM):

BID SPECIFICATIONS
SUPPLY AND DELIVERY OF ELECTRICAL METER BOXES

COMPARTMENTS.

The low voltage kiosks shall be suitable for the housing of equipment. The kiosks shall have three sections (compartments) as follows, except pole mounted and distribution kiosks.

- 1.1 One section (back) containing all the incoming and out going switchgear and cables.
- 1.2 The second compartment (front) containing the kWh, pre-paid and maximum demand meters.
- 1.3 The third compartment (top) containing the relevant circuit breakers with steel flash barriers.

2. CONSTRUCTION

- 2.1 The kiosk shall be completely manufactured of 1,5mm 3CR12 Stainless Steel plate, dip pickled and passivated after welding, and Powder coated (60-80 microns paint thickness) (interior and exterior) in color specified by city electrical Employer's Agent.
 -
 - ONLY THE 2/6 WAY POLE MOUNT BOXES MUST BE MADE OF=Thermoplastic UV stabilized or Fibre glass or UV stabilized linear low density POLYETHYLENE
- 2.2 The units shall be properly ventilated (100mm X 50mm louver type slots, on fixed sides of m/box) against overheating and adequate measures shall be taken to prevent condensation.
- 2.3 The units shall be completely weather proof, vermin and insect proofed (stainless steel grid). It shall be of a neat and esthetical design. The kiosks will be designed in such a way that no dust will be collected on switchgear.
- 2.4 All kiosks will be equipped with a covered, tamper free replaceable Risi (code C1 as per polokwane) locking system (290mm for S/L & 1PH3W M/Boxes and 420mm for 1PH6W to 1PH12W M/Boxes as well as all 3 Phase and Maximum Demand M/Boxes) that only Polokwane Municipality have access to. All kiosks will also be equipped with a covered tamper free, lock system for padlock that can not be cut by bolt cutter.
- 2.5 All windows of the kiosks will be polycarb type, and not Perspex or plastic, and be pop-riveted onto the kiosk on all four corners of the windows. No windows to be installed on pole mounted type boxes.
- 2.6 Circuit breaker trays/racks on top of meter boxes must be installed at 45degree angle in order for circuit breaker to operate hydraulically and mechanically. All circuit breakers will be well covered against any flash, blanks to be installed where provision is provided.
- 2.7 All kiosks will be manufactured to accommodate any type/size of meter (kWh or pre-paids). Kiosks will be threaded inserts for meter mounting complete with screws.
- 2.8 A busbar flash barrier (polycarb) must be installed in all kiosks with back compartments (sliding plates), of which the barrier must have its own sliding slot.

NOTE: All steelwork shall be machine punched and drilled to suit no modifications or alterations due to non alignment of equipment including panels. Non-threaded blind-rivets (Head size 16mm, shaft length 20mm and shaft thickness 10mm) to be used as hinges on horizontal laying type doors.

3. FINISH AND PAINTING

- 3.1 All metal work that is to be painted shall be finished neatly and shall be of good workmanship. The corners must be squared and rounded, neatly bent and welding must be free of welding grain and sharp points – it must be grinded where required.
- 3.2 The preparation for painting must be done strictly in accordance with the directions of SANS 064. All surfaces must be cleaned thoroughly and all rust, grease, scale or other foreign objects must be removed with a wire brush, sandblasting/or any other approved process.
- 3.3 All internal indoor surfaces shall be treated within 8 hours after cleaning with prime coat of high grade zinc chromate and two layers of white baked enamel unless otherwise specified in the detail specification. No holes to be made in material after process have taken place.
- 3.4 Color of meter boxes must be "light Pastel Grey" (SANS 1091 – 1975 CODE G69), only streetlight meter kiosk's sliding doors will be orange.
- 3.5 A 10mm Red indication line must be painted in the centre of the ground plate indicating the planting depth of the kiosk.

4. GENERAL

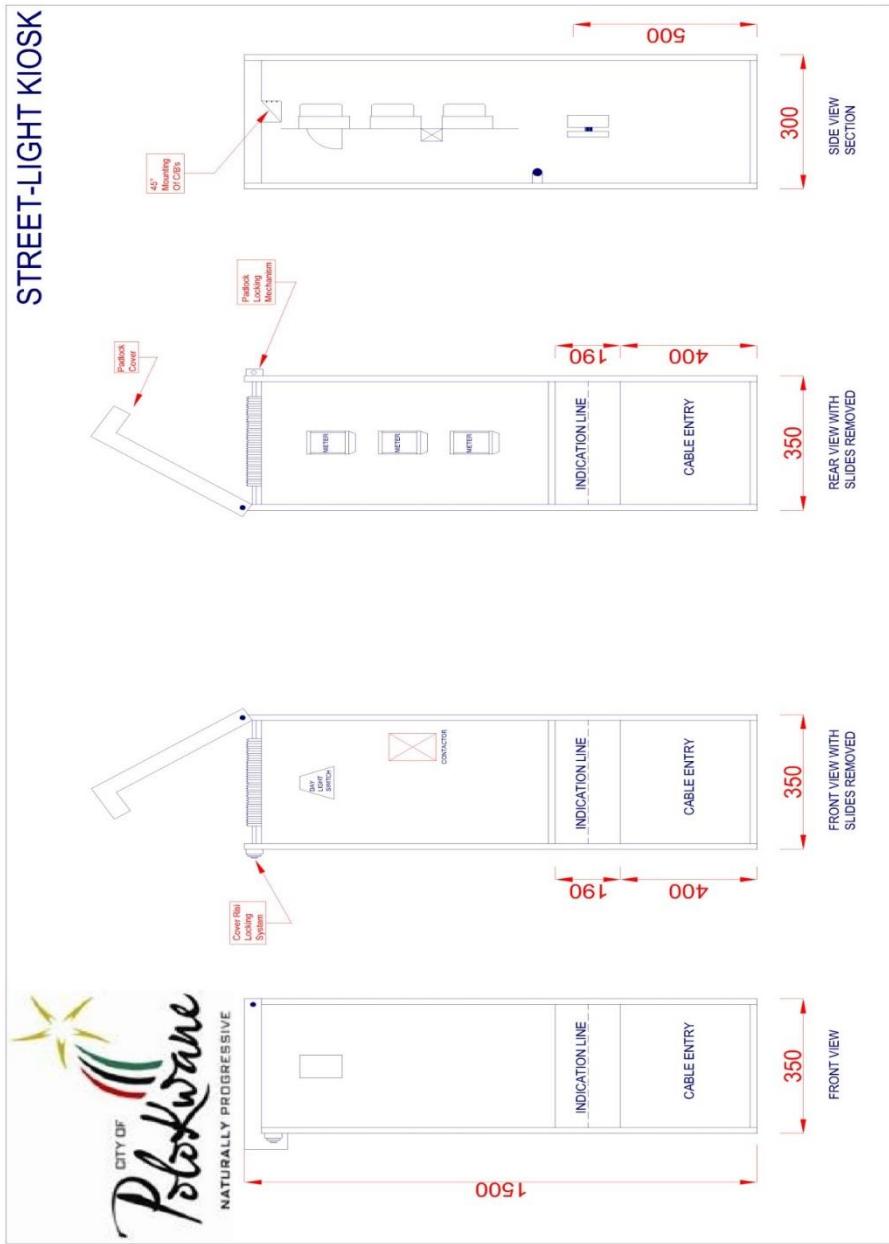
- 4.1 Danger signs must be shown on front and rear sides of the kiosk. All danger signs will be steel type and pop-riveted onto the kiosk with four pop-rivets (on all corners of plate). All danger signs must be approved by Polokwane Municipality before installation on meter boxes.
- 4.2 No company name will be displayed/advertised on the outside of the kiosk. Only Polokwane Municipality must be printed on the danger plates. All company details must be placed on the inside of the top cover/door of the kiosk or the inside of the front doors in cases of pole mounted or distribution kiosks, in order for municipality to identify manufacturer.
- 4.3 One kiosks of each type, to be installed or supplied will be inspected and approved by the Planning Engineering team, determined by the Planning engineer before manufacturing can continue. The inspection of these kiosks must be arranged to be either at the factory or kiosks must be brought to Polokwane Municipality. Drawings for these meter boxes must also be provided for approval.
- 4.4 On pre-wiring, only one connecting point will be allowed per stud on the busbars.
- 4.5 All internal wiring must be 16mm² PVC Insulated Cu Conductor, according to phase coloring.

POLOKWANE MUNICIPALITY
BUSINESS UNIT ELECTRICAL SERVICES
SUPPLY AND DELIVERY OF ELECTRICAL METER BOXES
SPECIFICATIONS

DESCRIPTION AND CONTENTS OF ALL KIOSKS

1. A. **TITLE – SLCS (STREET LIGHT CONTROL STUBBY)**
- B. **MECHANICAL**
 - Slides orange.
- C. **EQUIPMENT (Provision for)**
 - 1 X T/P MCB
 - 6 x SF1 MCB's
 - 3 x S/PH 20/80A kWh meters. (Conventional or electronic meters).
 - 1 x National or similar Photocell.
 - 1 x Contactor.
- D. **ELECTRICAL**
 - N/E Bar Both 200 x 31 x 6,3mm².
 - Hole size Ø 12mm.
 - N/E Link-35mm bear earth conductor.
 - Prewired – To SANS End Sleeves/Shrunk End.(AIR SHRINK END-CAP) Kiosk to be prewired for MCB's and meters. No wiring to street light control circuit required.
 - Tube Clamps (1 x 32mm/ 3 x 23mm inner diameter).
 -

STREET-LIGHT KIOSK



SUPPLY AND DELIVERY OF STEEL STREET LIGHT POLES

A. TENDER SPECIFICATION FOR SUPPLY AND DELIVERY OF 11Kv/420V/242V STEEL STREET LIGHT POLES.

S P E C I F I C A T I O N S.

A.1 TYPE 1: TENDER SPECIFICATION FOR 4.5 M MOUNTING HEIGHT AS PER ATTACHED DRAWING – STREETLIGHT POLE

1. CONSTRUCTION.

NB. All poles shall be designed by a Professional Engineer according to SABS 0225/1991.

- 1:1 Poles shall be of Tubular design with a constant rate of taper of 1:100. Stepped poles or swaged poles manufactured from tubing shall be acceptable.
- 1:2 Poles shall be all welded construction. Butt welds are only permitted with the use of internal reinforcing sleeves. Swaging of joints shall not be acceptable.
- 1:3 The steel used in the manufacture of the poles shall be ISO Structa tube Grade 300WA with a minimum yield strength of 300MPa. Test and analyses certificates must be provided on request. No steel sections shall be less than 3mm wall thickness.
- 1:4 All welding shall be carried out by SABS coded welding only. Proof that all welders have been tested by the SABS shall be provided on request.
- 1:5 The loose base plate cut out of the access opening must be welded to base of the pole.
- 1:6 Fixed plate for "K" Clamps and Din Rail MCB Clip to be provided.
- 1:7 Earth stud to be provided.

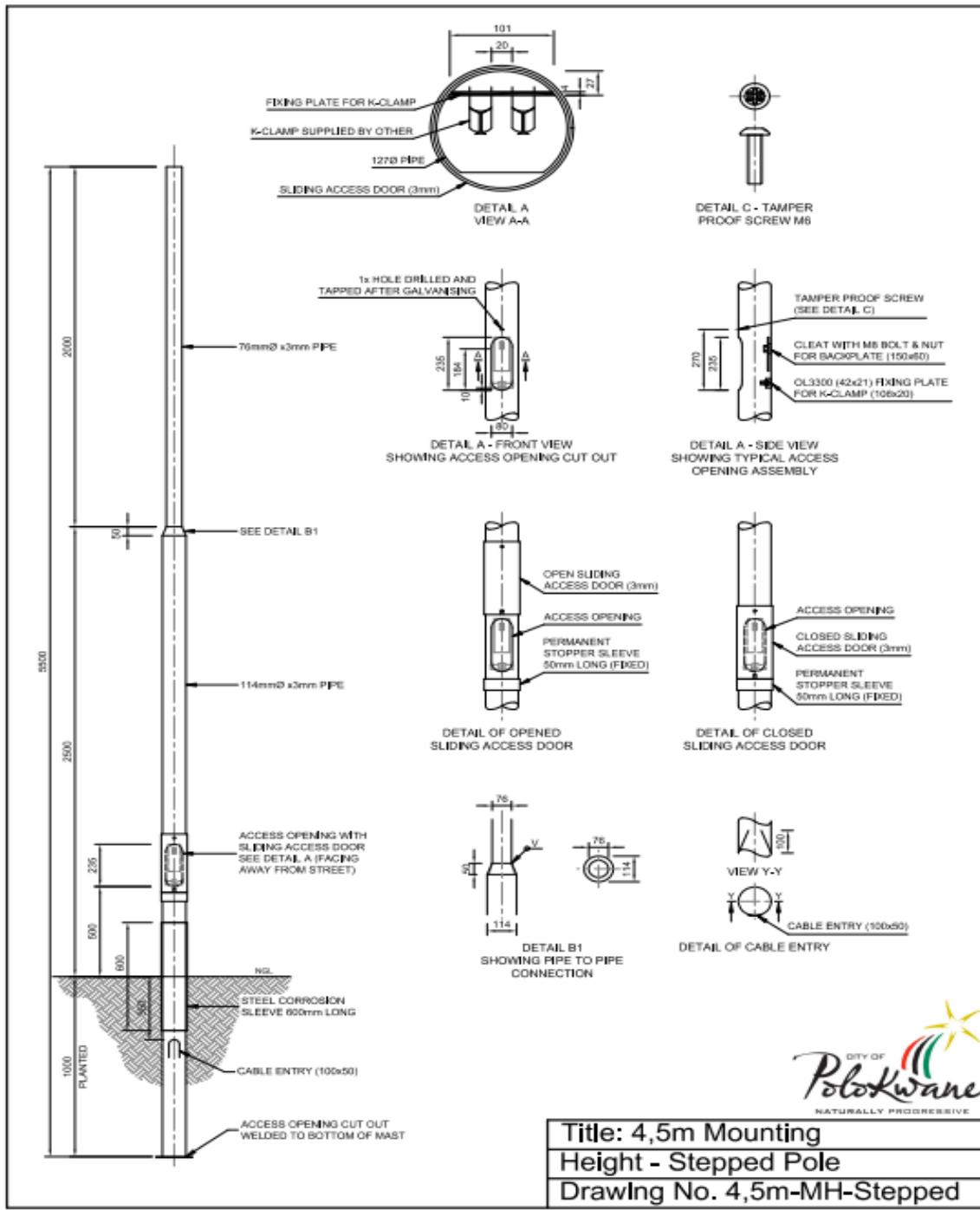
2. DIMENSIONS

- 2:1 The poles shall be 5,5m long suitable for planting in the ground giving a mounting height of 4.5m.
- 2:2 An access opening 235 x 80mm shall be provided 1 000 mm above ground level and shall be complete with permanent sleeve cover secured by one x M5 Countersunk Stainless-Steel Allen key screw and one permanent stopper screw or blocker as indicated on drawing. The permanent sleeve shall be sealed with a nesprene seal on the upper portion of the permanent sleeve.
- 2:3 Two cable entries 100 x 50mm shall be provided as per attached sketch below ground level at 90° displacement from the access opening.

3. CORROSION PROTECTION

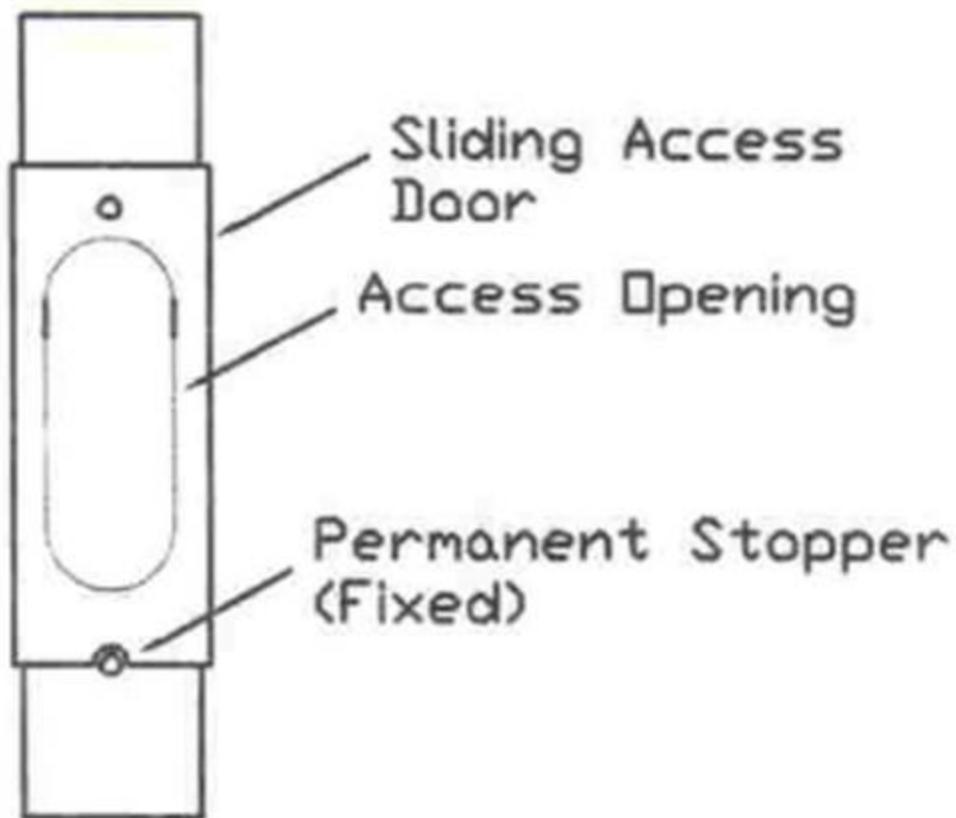
- 3:1 All parts of the pole and associated parts shall be hot dip galvanized to SABS Spec 763/1977 and inspection certificates shall be provided on request.
- 3:2 No welding, drilling, punching, bending or removal of burrs shall be carried out after galvanizing.
- 3:3 Corrosion protection sleeve (600mm) welded on 300mm below and above ground level.

Note: During installation, **P2 Pratley connectors** will be used and **NOT** connector strips/blocks,



Title: 4,5m Mounting
Height - Stepped Pole
Drawing No. 4,5m-MH-Stepped

Detail : Sliding Access Door



NB: Above drawing / design will replace all the removable cover doors on all the poles and will be one meter above ground level not as drawings indicate. (Access opening 235 x 80mm)

PRICING SCHEDULE

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

SUPPLY AND DELIVERY OF STEEL STREETLIGHT POLES

DESCRIPTION	NETT PRICE VAT INCLUDED	SABS MARK	DELIVERY PERIOD	SETTLEMENT DISCOUNT FOR 30 DAYS
TYPE 1 Mounting height 4.5m as per attached drawing, for bottom entry luminary Steel Lights Columns. Hot dip galvanized protection to SABS specification 763. (with sliding access door)				
TOTAL				

NOTE: 1) PRICES WILL INCLUDE TRANSPORT AND DELIVERY AT POLOKWANE MUNICIPALITY STORES.
 The prices escalation shall be calculated at consumer price index (CPI) per annum at the anniversary of the contract and for the duration of the contract.

POLOKWANE MUNICIPALITY

C3.5.2. ENVIRONMENTAL MANAGEMENT DURING CONSTRUCTION



STORMWATER CANAL PHASE 2.

BID NUMBER: PM 11/2021

1. ABBREVIATIONS

DEA	Department of Environmental Affairs
DEDET	Department of Economic Development, Environment and Tourism
DMR	Department of Mineral Resources
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
CoP	City of Polokwane
HIA	Heritage Impact Assessment
IRPTP	Integrated Rapid Public Transit Project
LIHRA	Limpopo Heritage Resource Authority
MPRDA	Minerals and Petroleum Resources Development Act
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
RAL	Roads Agency Limpopo
SANRAL	South African National Road Agency Limited
SAHRA	South African Heritage Resources Agency

C3.5.2.1. INTRODUCTION

This Environmental Management Plan (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the defects notification period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract. In the event that any conflict occurs between the terms of the EMP and the project specifications or Record of Decision, the terms herein shall be subordinate.

The EMP is a dynamic document subject to similar influences and changes as are brought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the City of Polokwane in writing for approval.

The EMP identifies the following:

- Construction activities that will impact on the environment.
- Specifications with which the contractor shall comply in order to protect the environment from the identified impacts.
- Actions that shall be taken in the event of non-compliance.

C3.5.2.2. DEFINITIONS

Alien vegetation

Alien vegetation is defined as undesirable plant growth which shall include, but not be limited to, all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Construction activity

Construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process as defined in the South African Roads Agency Limited and National Roads Act, 1998 (Act No. 7, 1998)

Environment

Environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental aspect

An environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental authorization/Record of Decision:

An environmental authorisation or record of decision is a written statement from the Department of Environmental Affairs, (DEA), that record its approval of a planned undertaking to construct power line and substation and the conditions of approval which may include mitigating measures required to prevent or reduce the effects of environmental impacts during the life of a contract.

Environmental impact

An impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

Road reserve

The road reserve is a corridor of land, defined by co-ordinates and proclamation, within which the road, including access intersections or interchanges, is situated. A road reserve may, or may not, be bounded by a fence.

Road width

For the purposes of the EMP, the road width is defined as the area within the road reserve i.e. fence line to fence line, but also includes all areas beyond the road reserve that are affected by the continuous presence of the road, e.g. a reach of a water course.

Identification of environmental aspects and impacts

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- stormwater discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources
- noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified, and the activity planned so as to prevent any impact from happening.

If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the Employer's Agent approval, which will limit and contain the magnitude, duration and intensity of the impact.

The contractor shall demonstrate that he is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce an approved construction programme according to and project specifications.

Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

- Pollution of atmosphere, soil or water
- Destruction or removal of fauna and flora and effect on biological diversity
- Deformation of the landscape
- Soil erosion
- Destruction of historical/heritage sites
- Effect on the built environment
- Effect on agricultural land and wetlands

General good construction practice will play an important role in avoiding the occurrence of an Impact. The contractor's attention is drawn. Environmental Management of Construction Activities

C3.5.2.3. LEGAL REQUIREMENTS

(a) General Requirements

Construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

(b) Statutory and other applicable legislation

The contractor is deemed to have made himself/ herself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract and scope of work.

C3.5.2.4. REPORTING CHAIN

a) Appointment of a designated Environmental Officer (DEO) or an Environmental Control Officer (ECO)

For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO/ ECO for the contract. The

request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved, he/she shall be the DEO/ ECO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The DEO/ ECO shall submit regular written audit reports (Once a month) to the engineer.

The engineer shall have the authority to instruct the contractor to replace the DEO/ ECO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.

There shall be an approved DEO/ ECO on the site at all times. The environmental sensitivity of the project will dictate whether the approved DEO/ ECO should be able to assume other construction duties or should be a dedicated officer with no other encumbrances or even whether an external environmental auditor needs to be appointed.

b) Administration - Statement

Before the contractor begins each construction activity the DEO/ ECO shall give to the engineer a written statement setting out the following:

- The type of construction activity.
- Locality where the activity will take place.
- Identification of the environmental aspects and impacts that might result from the activity.
- Methodology for impact prevention for each activity or aspect.
- Methodology for impact containment for each activity or aspect.
- Emergency/disaster incident and reaction procedures.
- Treatment and continued maintenance of impacted environment.

The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the Employer's Agent whenever there is a change or variation to the original.

The engineer may provide comment on the methodology and procedures proposed by the DEO/ ECO, but he/ she shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

c) Good Housekeeping – incident mitigation

The contractor shall undertake "good housekeeping" practices during construction. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

Good housekeeping practices demand that all health and environmental incident be reported during the monthly audit reports and mitigated as soon as possible.

2. TRAINING – ENVIRONMENTAL awareness program

The designated environmental officer (DEO/ ECO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract.

The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies,

- The environmental impacts, actual or potential, of their work activities;
- Conformance to mitigation measures proposed for sensitive grassland areas;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.
- All risks must be identified and processes be established to mitigate such risk, proactively. Thus the applicant needs to inform the employees of any environmental risks that may result from their work, and how these risks must be dealt with in order to avoid pollution of the environment.

In the case of permanent staff, the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he intends concluding his environmental training obligations.

Table 2: Environmental Aspects

	<i>Environmental Aspects</i>	<i>Potential Environmental Impacts</i>							
		<i>Resource Use</i>	<i>Waste Management</i>	<i>Air Emissions</i>	<i>Water Pollution</i>	<i>Noise and Vibrational Effects</i>	<i>Land Contamination</i>	<i>Flora and Fauna</i>	<i>Historic Heritage</i>
Materials and Site Equipment Specification									
	Equipment selection: noise					x			
	Equipment selection : energy efficiency	x							
	Use of hazardous materials		x	x	x		x		
	Use of structural steel work, metal work and ironmongery	x							
	Use of virgin materials in brickwork, blockwork, masonry, pavers, plasters, etc.	x							
	Use of virgin aggregates in concrete (e.g. foundations, super structure, screeds, etc.)	x							
	Use of virgin materials in cement (e.g. foundations, super structure, screeds, etc.)	x							
	Provision of interior/exterior lighting (lamps, installed loads, controls) in occupied/ public areas	x						x	
Use of Vehicles									
	Fuel consumption by vehicle	x					x		
	Noise produced by vehicle					x			
	Exhaust air emissions			x					
	Discharge of vehicle wash water				x				
	Vehicle maintenance : waste generation (old parts, contaminated wastes, lubricant oil disposal)	x				x			
	Traffic congestion			x					x
	Potential oil leakage	x	x	x		x		x	
Operational Dust and Suppression									
	Dust generated from construction and operational activities, moving traffic, and insufficient protection or covering			x					
	Dust emission from dusty load on outgoing trucks		x						
	Dust emission from storage of cement/PFA		x						
	Dust emission from handling of cement/PFA		x						
	Consumption of water for wheel/vehicle washing	x							
	Consumption of water for dust suppression	x							

	<i>Environmental Aspects</i>	<i>Potential/ Environmental Impacts</i>							
		<i>Resource Use</i>	<i>Waste Management</i>	<i>Air Emissions</i>	<i>Water Pollution</i>	<i>Noise and Vibrational Effects</i>	<i>Land Contamination</i>	<i>Flora and Fauna</i>	<i>Historic Heritage</i>
	Consumption of covering materials/dust screens/nettings	x							
	Disposal of used covering materials/dust screens/nettings		x						
	Disposal of sludge from wheel/vehicle washing facilities		x						
Construction/Operational Noise and Suppression									
	Construction noise generated from equipment operation, vehicles and various construction activities					x			
Cumulative Resources Consumption									
	Electricity consumption	x							
	Water consumption	x							
	Consumption of domestic	x							
Emergency Circumstances									
	Accidental damage to underground utilities (e.g. sewage / potable water pipes, gas, electricity installations)				x		x		
	Discovery of archaeological findings / rare species						x	x	x
	Land / groundwater contamination from construction/demolition/operational works (e.g. major spillage accidents)					x			
	Disposal of wastes arising from cleaning after spillage or accidents	x							
Handling and Storage of Materials/Chemicals									
	Poor coverage of materials causing fugitive dust emission			x	x				
	Improper storage of materials resulting deterioration and wastage	x				x			
Nuisance									
	Visual impact (visual intrusion, glare, etc. from site)							x	
Site Plant and Machinery (Operation and Maintenance)									
	Consumption of fuel (diesel/petroleum)	x							
	Consumption of electricity	x							
	Air emission from combustion of fuel (e.g. black smoke)			x					
	Noise generation from plants and equipment				x				
	Spillage of chemical during refuelling	x		x		x			

	<i>Environmental Aspects</i>	<i>Potential/ Environmental Impacts</i>							
		<i>Resource Use</i>	<i>Waste Management</i>	<i>Air Emissions</i>	<i>Water Pollution</i>	<i>Noise and Vibrational Effects</i>	<i>Land Contamination</i>	<i>Flora and Fauna</i>	<i>Historic Heritage</i>
	Leakage of fuel/lubricant/chemicals from plants and equipment due to poor maintenance				x		x		
	Consumption of lubricant/hydraulic oil/solvents	x							
Transportation									
	Fuel consumption by vehicles	x							
	Noise produced by vehicles					x			
	Exhaust air emissions			x x					
	Traffic congestion		x						x
	Dust emission		x						x
Waste Collection, Handling and Disposal									
	Dust emission from collection/handling of waste (by bulldozer, grab lorry, refuse chutes, etc.) and improperly uncovered stockpiled waste			x					
	Visual intrusion by uncovered stockpiled waste								x
	Disposal of uncontaminated spoil/vegetation (including marine dumping)	x		x					
	Disposal of other solid waste	x							
Wastewater Discharge and Treatment Facilities									
	Discharge of wastewater from stockpiles activities				x				
	Discharge of wastewater from cleaning of site plants/machineries/facilities				x				
	Discharge of domestic wastewater from site toilets				x				
	Discharge of storm water runoff				x				

Table 3: Environmental Management Plan

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
i) Staff awareness program and training	Risk mitigation	Applicant to inform contractor of risk and contractor to train staff prior to commencing with any construction on site.	Permanent/ Continuous	<ul style="list-style-type: none"> Reducing in incidents and identified risks 	Contractor with Polokwane Municipality EMP checklist
ii.) Appoint Designated Environmental Officer (DEO)	Oversee and enforce EMP.	Contractor to appoint approved DEO/ ECO prior to commencing any activities on site.	Permanent/ continuous	<ul style="list-style-type: none"> Polokwane Engineer satisfied with DEO/ ECO performance based on EMP implementation 	Contractor EMP checklist
1. Site Establishment	Waste treatment; Hazardous waste; Water supply; Spillage; Storage of chemicals.	<p>The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.</p> <p>The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas. It is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course if any around the construction site. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site.</p> <p>Prior to any site preparation or construction activities the applicant should provide a plan to the DEO/ ECO for approval of the construction site indicating access routes, stockpiling and storage areas, and disposal of spoil.</p>	Once at project start	<ul style="list-style-type: none"> Detail design drawings mitigate impacts Selection of site Preserve indigenous vegetation Preserve topsoil 	DEO/ ECO reports to Resident Engineer (RE) EMP checklist
1.1. Accommodation of Traffic	Road safety	Adequate (as determined by the DEO/ ECO and relevant safety official) temporary traffic control measures and signage should be provided at construction areas. Heavy vehicle traffic to and from the site should be scheduled outside of rush hour traffic intervals.	Weekly	<ul style="list-style-type: none"> No traffic accidents caused by construction activities, No worker or pedestrian fatalities. 	DEO/ ECO REPORTS TO RE EMP checklist
1.2. Vegetation	Habitat destruction; soil erosion	The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.	Weekly at construction start, monthly thereafter	<ul style="list-style-type: none"> No unnecessary vegetation cleared Selection of site 	DEO/ ECO REPORTS TO RE

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		<p>The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared.</p> <p>Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.</p>		<ul style="list-style-type: none"> • Preserve indigenous vegetation • Preserve topsoil • Demarcate sensitive areas 	EMP checklist
1.3 Rehabilitation	Rehabilitation	<p>The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract, to the Engineer and DEO/ ECO satisfaction.</p> <p>Any disturbed areas should be rehabilitated with natural vegetation endemic to the area as soon as possible after construction.</p>	Weekly monitoring and when rehabilitation commences	<ul style="list-style-type: none"> • Removal of all solid waste, re-vegetation coverage to conform to surrounding land types. 	DEO/ ECO REPORTS TO RE
1.4 Water for human consumption	Water and soil pollution, health	<p>Water for human consumption shall be available at the site offices and at other convenient locations on site.</p> <p>All effluent from the camp /offices shall preferably be collected and disposed of by means a temporary (environmentally safe) system, such as chemical toilets empties by a contractor. If this is not feasible (due to the construction duration or other difficulties), all effluent water from the camp / office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc). Only domestic type wastewater shall be allowed to enter this drain.</p>	Weekly monitoring of waste and effluent removal/ disposal	<ul style="list-style-type: none"> • Adequate quantities of potable water, • Proper effluent disposal 	DEO/ ECO REPORTS TO RE
1.5 Heating and Cooking fuel	Habitat destruction	<p>The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.</p>	Weekly monitoring	<ul style="list-style-type: none"> • No hunting, or loitering on site 	DEO/ ECO REPORTS TO RE
1.6 Sewage treatment	Soil and water pollution; Waste disposal	<p>Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.</p> <p>Safe and effective sewage treatment will require one of the following sewage handling methods: least preferred: septic tanks and soak-away, dry-composting toilets such as "enviro loos", or the use of (most preferred) chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system.</p>	Weekly monitoring of sewage facilities, and maintenance and disposal	<ul style="list-style-type: none"> • Adequate and operation sewage treatment/disposal 	DEO/ ECO REPORTS TO RE

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		<p>The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer.</p> <p>Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.</p> <p>Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.</p>			
2. Waste Management	Soil and water pollution; Waste disposal	The contractor's intended methods for waste management and waste minimization shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.	Weekly monitoring of waste cleanup	<ul style="list-style-type: none"> No waste or litter accumulation on site 	DEO/ ECO REPORTS TO RE EMP checklist
2.1 Solid Waste	Soil and water pollution; Waste disposal	Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a Department of Water Affairs (DWA) licensed landfill site or at a site approved by DWA in the event that an existing operating landfill site is not within reasonable distance from the site offices and staff accommodation. No waste shall be burned or buried at or near the site offices, or anywhere else on the site.	Weekly monitoring	<ul style="list-style-type: none"> No waste or litter accumulation on site Proof of disposal certifies. No burning of waste. 	Contractor EMP checklist
2.2 Litter	Soil and water pollution; Waste disposal	<p>No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.</p> <p>Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites.</p>	Bi weekly monitoring	<ul style="list-style-type: none"> No waste or litter accumulation on site Proof of disposal certifies. Availability and maintenance of litter / refuse collection facilities. No burning of waste. 	DEO/ ECO REPORTS TO RE EMP checklist
2.3 Hazardous waste	Soil and water pollution Waste disposal	<p>Hazardous waste such as bitumen, tar, oils etc. shall be disposed of in a DWA approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.</p> <p>Under no circumstances shall the spoiling of tar or bituminous products on</p>	Weekly monitoring	<ul style="list-style-type: none"> No spillages or direct disposal. No waste or litter accumulation on site 	DEO/ ECO REPORTS TO RE EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. Any spillage of tar or bituminous products shall be attended to immediately and affected areas shall be promptly reinstated to the satisfaction of the engineer.		<ul style="list-style-type: none"> Proof of disposal certificates. Proof of reinstatement following any spillages. No burning of waste. 	
3. Control at the workshop	Soil and water pollution; Waste disposal	The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the subsections below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).	Weekly monitoring	<ul style="list-style-type: none"> Ensure operational noise is no excessive and limited to daylight hours. 	DEO/ ECO REPORTS TO RE EMP checklist
3.1 Safety	Worker health and safety	All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.	Weekly monitoring	<ul style="list-style-type: none"> Random visual inspection during site visits. 	DEO/ ECO REPORTS TO RE EMP checklist
3.2. Hazardous Material Storage	Soil and water pollution Waste disposal	<p>Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.</p> <p>The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage. The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.</p>	Weekly monitoring	<ul style="list-style-type: none"> No hazardous waste accumulation on site Proof of disposal certificates. No burning of waste. Suitable and adequate hazardous substance storage areas. Proof of submission and approval from the engineer. 	DEO/ ECO REPORTS TO RE EMP checklist
3.3 Fuel and Gas Storage	Soil and water pollution; Waste disposal	<p>Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. Any leakage, spillage or overflow of fuel shall be attended to without delay.</p> <p>Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.</p>	Weekly monitoring	<ul style="list-style-type: none"> Inspect bunded area for leaks / drainage Proof of disposal certificates. No burning of waste. 	DEO/ ECO REPORTS TO RE EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
3.4 Oil and Lubricant Waste	Soil and water pollution; Waste disposal	<p>Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.</p> <p>All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.</p>	Weekly monitoring	<ul style="list-style-type: none"> Inspect bunded area for leaks / drainage Proof of disposal certificates. No burning of waste. 	DEO/ ECO REPORTS TO RE EMP checklist
4. Clearing the Site	Habitat destruction, soil erosion	<p>In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the proposed development footprint, or at designated or instructed areas outside the development footprint, a plan of action shall first be submitted to the engineer for his approval.</p> <p>The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.</p> <p>The contractor shall be responsible for the re-establishment of vegetation within all areas disturbed during construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, construction has to be stored temporarily, or at designated or instructed areas outside the construction boundary.</p>	Weekly monitoring	<ul style="list-style-type: none"> No unnecessary vegetation removal. Regular records of vegetation status 	DEO/ ECO REPORTS TO RE EMP checklist
4.1 Soil Management	Soil erosion	<p>Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contractor will provide for the stripping and stockpiling of topsoil from the site for later reuse. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition. Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved DWA waste disposal site. The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6 months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.</p>	Bi-monthly monitoring	<ul style="list-style-type: none"> Visual inspection of stockpiles 	DEO/ ECO REPORTS TO RE EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be top-soiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the proposed development that may have been affected by such negligence.			
4.2. Subsoil	soil erosion	The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.	Weekly monitoring	<ul style="list-style-type: none"> Visual inspection 	DEO/ ECO REPORTS TO RE EMP checklist
4.3 Drainage / soil erosion /storm Storm water management water management Management		<p>The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed development.</p> <p>Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.</p> <p>The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.</p>	Weekly monitoring	<ul style="list-style-type: none"> Visual inspection, no excessive soil erosion or sedimentation. 	DEO/ ECO REPORTS TO RE EMP checklist
5. Earthworks and Layer works	Soil erosion Visual impact Noise	This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or monitoring batching, for use in the permanent works, or temporary works. In addition, the contractor shall take cognisance of the requirements set out below.	Bi-monthly	<ul style="list-style-type: none"> Visual inspection 	DEO/ ECO REPORTS TO RE EMP checklist
5.1 Quarries and borrow pits	Soil erosion Visual impact Noise	The contractor's attention is drawn to the requirement of the Department of Minerals Resources (DMR), that before entry into any quarry or borrow pit, authorization an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the	As per borrow pit authorization	<ul style="list-style-type: none"> As per borrow pit authorization 	DEO/ ECO REPORTS TO RE EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		contractor to ensure that he is in possession of the approved EMP or a copy thereof, prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications the former shall apply.			
5.2. Excavation, hauling and placement	Soil erosion Visual impact Noise	The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his "good housekeeping", particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity.	Bi-monthly monitoring	<ul style="list-style-type: none"> As per borrow pit authorization 	DEO/ REPORTS TO RE EMP checklist
5.3 Spoil sites	Soil erosion Visual impact Noise	<p>The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects notification period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used, proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after re-vegetation.</p> <p>The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.</p> <p>Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio. Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor.</p>	Bi-monthly monitoring	<ul style="list-style-type: none"> Visual inspection (photographic record) 	DEO/ REPORTS TO RE EMP checklist
5.4 Stockpiles	Soil erosion Visual impact Noise	No construction related activities including stockpiling and spoil areas, temporary storage areas, temporary and permanent access routes, and monitoring temporary working areas are to take place within the area beyond the demarcated site boundary.	Bi-monthly monitoring	<ul style="list-style-type: none"> Visual inspection, no excessive dust 	DEO/ REPORTS TO RE EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		<p>The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported directly to, and placed at, the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor's proposed measures for prevention, containment and rehabilitation against environmental damage?</p> <p>The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:</p> <ul style="list-style-type: none"> - Positioned and sloped to create the least visual impact; - Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and - Kept free from all alien/undesirable vegetation. <p>After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer and the relevant National Authority is received.</p> <p>In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their clause only when they have been satisfactorily rehabilitated.</p>			
5. Blasting activities	Health and Safety Noise	<p>Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields. The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard. The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the times and delays to be expected for each</p>	Bi-monthly monitoring	<ul style="list-style-type: none"> • Visual inspection 	DEO/ ECO REPORTS TO RE EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		individual blast.			
6. Spillages	Soil & water pollution	<p>Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.</p> <p>Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer. The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be re-vegetated according to the engineer's instructions</p> <p>Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.</p>	Weekly monitoring	<ul style="list-style-type: none"> Visual inspection 	DEO/ ECO REPORTS TO RE EMP checklist
7. Areas of Specific Importance	<ul style="list-style-type: none"> Loss of populations of threatened plant species Loss of habitat of threatened animal species Loss of indigenous natural vegetation (primarily grassland) Erosion and siltation due to change in runoff and drainage patterns Establishment and spread of declared weeds and alien invader plants. Noise impacts on local residents 	<p>Any area, as determined and identified as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed.</p> <ul style="list-style-type: none"> The contractor may not establish his construction camp inside the areas marked as natural vegetation. No unnecessary vegetation clearing will be allowed in natural vegetation areas, Noise abatement measures must be implemented 	Weekly monitoring	<ul style="list-style-type: none"> No vegetation has been unnecessary removed, (photographic evidence) No construction camp in sensitive or protected vegetation Construction camp to be approved by DEO/ ECO & Engineer 	DEO/ ECO REPORTS TO RE Engineer EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
7.1. Archaeological Sites	8.2	If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The National Monuments Council is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist.	Bi-monthly monitoring	• Visual inspection	DEO/ ECO REPORTS TO RE EMP checklist
7.3 Graves and middens		If a grave or midden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the monitoring graves/middens shall be stopped and the engineer informed of the discovery. The National Monuments Council should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with the National Monuments Council, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred.	Bi-monthly monitoring	• Visual inspection	DEO/ ECO REPORTS TO RE EMP checklist
7.4 Noise Control		<p>The contractor shall endeavour to keep noise generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise, shall be mandatory.</p> <p>There are noise mitigation measures/principles which must be applied during the construction phase in order to prevent/minimise impact on noise sensitive areas. The requirements apply to all of the construction areas of the project.</p> <ul style="list-style-type: none"> i) Construction site yards, workshops, and other noisy fixed facilities should be located well away from noise sensitive areas. ii) All construction vehicles, plant and equipment are to be kept in good conditions. iii) Truck traffic should be routed away from noise sensitive areas, where possible. iv) Noisy operations should be combined so that they occur where possible at the same time. v) Blasting operations (if required) are to be strictly controlled with regard to the size of explosive charge in order to minimise noise and air blast, and timings of explosions. The number of blasts per day should be limited, blasting should be undertaken at the same times each day and no blasting should be allowed at night. vi) Construction activities are to be contained to reasonable hours during the day and early evening. Night-time activities near noise sensitive areas should not be allowed. No construction should be allowed on weekends from 14h00 on Saturday afternoons to 06h00 the following Monday morning. vii) With regard to unavoidable very noisy construction activities in the vicinity of noise sensitive areas, the contractor should liaise with local residents on how best to minimise impact, and the local population should be kept informed of the nature and duration of 	Weekly monitoring	• Routine observation, no complaints from residents	DEO/ ECO REPORTS TO RE Engineer EMP checklist

Activity	Environmental Aspect	Mitigation measures	Monitoring frequency and tools	Monitoring Indicators	Responsible party for implementation and Monitoring Tool
		viii) intended activities. As construction workers operate in a very noisy environment, it must be ensured that their working conditions comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993). Where necessary ear protection gear should be worn.			
9. Dust Control	Nuisance pollution	Dust caused by strong winds shall be controlled by means of water spray vehicles.	Weekly monitoring	<ul style="list-style-type: none"> Routine observation, no complaints from residents 	DEO/ ECO REPORTS TO RE EMP checklist
10. Alien Vegetation	Habitat destruction	The contractor shall be held responsible for the removal of alien vegetation within the boundary of the site disturbed during construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve.	Bi-monthly monitoring	<ul style="list-style-type: none"> Visual inspection, vegetation removal record by contractor, no unnecessary vegetation clearing 	DEO/ ECO reports to RE EMP checklist
11. Record Keeping		<p>The engineer and the DEO/ ECO will continuously monitor the contractor's adherence to the approved impact prevention procedures and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO/ ECO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the engineer in the monthly report.</p> <p>Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the employer or relevant environmental departments.</p>	Bi-monthly monitoring	<ul style="list-style-type: none"> Routine check for EMP availability and awareness. 	DEO/ ECO REPORTS TO RE EMP checklist

Monitoring

Monitoring during construction is key to successful implementation of the EMP. It is thus recommended that monitoring be conducted monthly and feedback provided to the Engineer during project site meeting. This allows for early identification and implementation of corrective measures in a timely manner. The monitoring inspection results are to be documented. Environmental monitoring must be undertaken on a monthly basis however internal monitoring by the project DEO/ ECO must be undertaken on a weekly basis and records of such monitoring kept in the environmental file on site. An audit of the environmental monitoring and management actions undertaken is essential to ensure that the contractor meets all the environmental obligations and conditions set out in the environmental authorisation and environmental related permits or licences issued to the project. Audits will be conducted monthly during the construction phase to ensure compliance and will ensure adherence to the management measures contained in the EMP. A post-construction audit or closure inspection will be undertaken to ensure that the site has been appropriately rehabilitated.

STAFF CONDUCT CONTROL AND INFORMATION SHEET

	ALL STAFF MUST OBEY THE FOLLOWING RULES:
1	DO NOT leave the construction site untidy and strewn with rubbish that will attract animal pests.
2	DO NOT bring your pets to the construction site.
3	DO NOT trespass on private properties not linked to the project.
4	DO NOT carry a weapon on the construction site or in the vehicles transporting workers to and from the construction site.
5	DO NOT set fires unnecessarily.
6	DO NOT cause any unnecessary disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
7	DO NOT drive a construction-related vehicle under the influence of alcohol.
8	DO NOT exceed the national speed limits on public roads or exceed the recommended speed limits in this management plan (where applicable) whilst driving a construction vehicle.
9	DO NOT drive a vehicle that is generating excessive noise (noisy vehicles must be reported and repaired as soon as possible).
10	DO NOT litter along the roadsides, including both public and private roads.
11	DO NOT remove or destroy vegetation at the construction camp/construction site without the prior consent of the Project Manager and Environmental Control Officer.
12	DO NOT tamper with, destroy or remove vegetation from any areas that have been fenced off or marked.

ACKNOWLEDGEMENT FORM

Record of signatures providing acknowledgment of being aware of and committed to complying with the contents of this Environmental Management Plan, which relates to the environmental mitigation measures for the project outlined above, and the environmental conditions contained in the civil and other construction contract documents.

PROJECT NAME:

CONSTRUCTION OF SESHEGO THE STORM WATER CANAL PHASE 2 IN POLOKWANE LOCAL MUNICIPALITY OF CAPRICORN DISTRICT MUNICIPALITY OF LIMPOPO PROVINCE

CLIENT / PROPOSER:

Signed: Date:

PROJECT MANAGER:

Signed: Date:

CONTRACTOR:

Signed: Date:

ENVIRONMENTAL CONTROL OFFICER

Signed: Date:

POLOKWANE MUNICIPALITY

Coherent Health & Safety

Specifications



**Project name: Stormwater
Canal Phase 2.
Project number: PM82/2020**

Construction	Date	Author	OHS Spec Rev
Project name: Storm water Canal Phase 2.	July 2021	Milton Moraba	OHSS-1021

FOREWORD

These health & safety specifications have been compiled in terms of the Occupational Health & Safety Act no. 85 of 1993 and Construction Regulations of 7 February 2014 as amended. It must be clear that this document is a management tool and should be used by the Principal Contractor and Contractors to comply with the Act and regulations.

Should there be any contradiction between this document and the Act; the Act must take preference except where explicitly stated.

Similarly, where this document is silent on a specific health & safety requirement, the Act must be used as the minimum requirement.

Should you be unclear about anything set out in this document, please contact this office. These specifications are site specific and include all works to be done by the principal contractor. The principal contractor will be responsible for all the work on site.

Every endeavour has been made to address the most critical aspects relating to Health and Safety issues to assist contractors in adequately providing for Health and Safety of employees on site. However, the Principal Contractor is required to ensure they stay compliant with statutory requirements and construction programs and processes and include such aspects in their Health and Safety file.

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COHERENT HEALTH AND SAFETY SPECIFICATIONS FOR STORMWATER CANAL PHASE 2.

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Notification of Construction work

Gazette 37305 shall specifically apply to all persons involved in the construction work pertaining to this project.

"Purpose of the Act" –To provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

"Agent" –means a competent person who acts as a representative for a Polokwane Municipality.

"Polokwane Municipality" –means any person for whom construction work is performed; **"Construction manager"** means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"Construction site" means a workplace where construction work is being performed.

"Construction supervisor" means a competent person responsible for supervising construction activities on a construction site.

"Construction work" means any work in connection with -

- a)** The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or 6
- b)** The construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work;

"Contractor" means an employer who performs construction work.

"Designer" means-

- a)** A competent person who-
Prepares a design.
Checks and approves a design.

Arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or Designs temporary work, including its components.

- b)** An architect or engineer contributing to or having overall responsibility for a

design.

- c) A building services engineer designing details for fixed plant.
- d) A surveyor specifying articles or drawing up specifications.
- e) A contractor carrying out design work as part of a design and building project; or an interior designer, shopfitter, or landscape architect.

“Health and Safety File” –means a file, or other record containing the information by the Construction Regulations.

“Health and Safety Plan” –means a site, activity or project specific documented plan in accordance with the Polokwane Municipality 's health and safety specification.

“Health and Safety Specification” –means a site, activity or project specific document prepared by the Polokwane Municipality pertaining to all health and safety requirements related to construction work.

“Method Statement” –means a document detailing the key activities to be performed to reduce as reasonably as practicable the hazards identified in any risk assessment. **“Principal contractor”** means an employer appointed by the Polokwane Municipality to perform construction work.

“Risk Assessment” –means a program to determine any risk associated with any hazard at a construction site, to identify the steps needed to be taken to remove, reduce or control such hazard.

1.5 Abbreviations:

GMR: General Machinery Regulations

OHS Act: Occupational Health & Safety Act. Act 85 of 1993 Constr Reg: Construction Regulation 2014

ORHVS: Operating Regulations for High Voltage Systems PPE: Personal Protective Equipment

2. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT

2.1 ROLES

Polokwane Municipality / Agent

- a) Prepare a baseline risk assessment and issue a health and safety specification to the Principal Contractor, Designer and include the specification in tender documentation.
- b) The Polokwane Municipality or the appointed Polokwane Municipality Agent will appoint each Principal Contractor for this project or phase/section of the project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations.
- c) The Polokwane Municipality or the appointed Polokwane Municipality Agent shall discuss, negotiate, and approve the contents of the specified project health and safety plan submitted by the Principal and Sub Contractor.
- d) The Polokwane Municipality or his Agent will take reasonable steps to ensure that the health and safety plan of the Principal and Sub Contractor is correctly implemented and

maintained. Monthly audits shall be conducted to monitor the compliance.

- e) In the event of design changes the Polokwane Municipality or the appointed Agent on his behalf will ensure that enough resources will be provided to implement the work safely.
- f) The Polokwane Municipality or his appointed Agent on his behalf will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:
 - have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;*
 - have failed to implement or maintain their health and safety plan;*
 - have executed construction work which is not in accordance with their health and safety plan;*
 - have acted in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.*

Designer

- Must consider the health and safety specifications of the Polokwane Municipality.
- Before the tender process, the designer must make available a report to the Polokwane Municipality about:
 - All the relevant health and safety information about the design of the relevant structure that might affect the pricing of the construction work.
 - The geotechnical -science aspects, where appropriate.
 - The loading that the structure is design to withstand.
- Inform the Polokwane Municipality in writing of any known or anticipated dangers or hazards related to the project.
- Make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered.
- During the design consider the hazards relating to any subsequent maintenance to be performed with the minimum risk.
- During the design stage cognizance of ergonomic design principals must be applied to minimize ergonomic related hazards in all phases of the life cycle of a structure.

2.2 Implementation of the Health and Safety Specifications (Drafting of the coherent Health & Safety Plan)

These health & safety specifications document forms an integral part of the contract, and the Principal Contractor is expected to use it when compiling its project-specific coherent health & safety plan. The Principal Contractor must forward a copy of these specifications to all Contractors at their bidding stage so that they can in turn prepare coherent health & safety plans relating to their operations.

3. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM ELEMENTS

3.1 Scope of the Project

These Specifications set out the requirements for eliminating or if this is not possible, for minimising as far as reasonably practicable, the risk of incidents and injuries occurring at Polokwane Municipality. **This document covers work to be undertaken of the project and sets out the rules and procedures for engagement on the project.** The scope also addresses legal compliance, Polokwane Municipality standards, hazard identification and risk assessment, risk control, and the promotion

of a health and safety culture amongst those working on the project. The health & safety specifications also make provision for the protection of those persons other than employees.

3.2 The Extent of the works:

- Preparation and Ancillary Works

Establishment of the Contractor's campsite and the provision of facilities for the Employer's Agent Supply plan labour, tools equipment and materials necessary to complete the work.

- Services

Before any work commences, the Contractor shall contact all private owners or public authorities controlling services so that they may, either protect, move or relocate any service as required, or confirm that all such work has been completed.

Payment will not be made for any inconvenience caused to the Contractor in regard to any services crossing the site or any authority working on or relocating any such services, nor will any delays caused by such work or relocation be accepted as a basis for claiming an extension of time for completing the works.

All known existing services and those services which require relocation and protection, are shown on the services plans. The Contractor's attention is drawn to the fact that such services information is based on information supplied by others, and the accuracy and completeness of this information has not been confirmed. The Contractor will therefore be required to proceed with extreme caution in order to avoid damage to existing services. Before commencing any work in the vicinity of services, the Contractor shall contact the relevant service authorities for assistance in locating the exact position of the services and where necessary the Contractor shall accurately locate the services by careful hand excavation.

- Accommodation of Traffic

The Contractor is to liaise with the City of Polokwane Roads & Stormwater Department (for municipal roads) with regards to any temporary road closures as required during this contract.

Accommodation of traffic during construction shall be undertaken to the requirements and details shown on the accommodation of traffic drawings.

Approximate quantities of each type of work are given in the Schedule of Quantities.

- Setting Out of Works

Whilst surveys have been carried out of the site, and the designs based on such surveys, it is the responsibility of the Contractor to recheck all the benchmarks and protect the benchmarks from damage at the start of the contract. It is the Contractor's responsibility to set out the Works and any discrepancies in the design or setting out shall be identified and brought to the attention of the Engineer promptly so they can be corrected before any abortive expenditure is incurred.

- Construction works for Canal

- Alterations

Breaking up and removal of existing asphalt roads, pavement layers, kerbs, paving blocks, brick structures, etc.

Removal of existing road markings

Cleaning out existing hydraulic structures

- New works

Clearing and grubbing of the canal prism;

Mass earthworks to achieve the required levels;

Construction of pavement layers;

Construction of stormwater drainage including extension, tie-in and repairs to existing stormwater drainage infrastructure, construction of new concrete pipe and box culverts, manholes, inlet and out structures;

Construction of Non-Motorised Transport Facilities including pedestrian walkways (segmented block paving), cycle lanes (segmented block paving) and Tactile Ground Surface Indicators (TGSIs);

Provision of Electrical Streetlighting;

Road markings as well as the supply and erection of road signs;

Continuous quality control over materials and works, and compliance with the Particular Specifications about environmental management and occupational health and safety during construction activities;

Finishing off the roadway, and de-establishment of Contractor's campsite and 12 months defects liability period; and

Provision of landscaping and beautification

3.3 *Interpretations*

3.3.1 Application

This specifications document is a legal compliance document compiled in terms of the OHS Act & Construction Regulations 2014 and is therefore binding. The document must be read in conjunction with other relevant legislation.

3.3.2 Definitions

The definitions as listed in the OHS Act 85/1993 and Construction Regulations (February 2014) shall apply.

3.4 *Minimum Administrative Requirements*

3.4.1 Notification of Intention to Commence Construction Work

The Principal Contractor must notify the Provincial Director of the Department of Labour in writing before construction work commences. A copy of this notification must be held in the Principal Contractor's health & safety file on site. The fax transmission slip will serve as proof of notification.

See attached **Annexure "F"**

3.4.2 Assignment of the Principal Contractor's / Contractors' Responsible Persons to Supervise and Co-ordinate Health and Safety on Site

The Principal Contractor and all Contractors must make supervisory appointments as well as other relevant appointments in writing (as stipulated by the OHS Act and Construction Regulations 2014). See attached **Annexure 'B'** for more detail on what health & safety management appointments are relevant on this project.

3.4.3 Competence of the Principal Contractor's / Contractors' Appointed Competent Persons

The Principal Contractor and Contractors' competent persons for the various risk management portfolios must fulfil the criteria as stipulated in terms of the definition 'Competent' in accordance with the Construction Regulations (February 2014).

3.4.4 Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The Principal Contractor must have in its possession a letter of good standing issued by its Compensation Assuror as proof of registration. Contractors must also hold proof of workman's compensation assurance registration in the form of a letter of good standing and forward a copy to the Principal Contractor before they begin work on site. Contractors must always be in good standing while carrying out work on site.

3.4.5 Health and Safety Organogram

Including all appointed risk management competent persons. In cases where appointments have not yet been made, the organogram shall reflect the intended positions.

The organogram must be updated when there are changes in the Site Management Structure and dated accordingly. The organogram merely serves as a quick reference to who is responsible for what risk portfolio in what area.

3.4.6 Preliminary Hazard Identification and Risk Assessments, Progress Hazard Identification and Risk Assessments Reviews.

The Principal Contractor must cause preliminary hazard identification and risk assessment to be performed under the leadership of a competent person before commencement of construction work. On this project detailed task- specific risk assessments based on the proposed sequence of work (method of work) must be compiled. Generic risk assessments will not be accepted.

The assessed risks, together with written safe work procedures for the 'medium & high-risk' rated activities must form part of the coherent site-specific health and safety plan submitted for approval by House of Safety. The risk assessments must include:

- a) A list of hazards identified as well as potentially hazardous tasks;
- b) The risks which may result based on the list of hazards and tasks;
- c) A set of safe work procedures to be implemented with the aim of eliminating or if this is not possible, reducing and/or controlling the risks as far as reasonably practicable to ALARP (as low as reasonably practicable);
- d) A monitoring and review procedure of the risk assessments as they change i.e. how will the risk assessments be reviewed, when will they be reviewed and by whom.

The Principal Contractor must ensure that all Contractors inform, instruct and train their workers regarding any hazards, the associated risks and the related safe work procedures to be implemented before any work commences and thereafter at regular intervals as the risks change

and as new risks develop. This training should be carried out in the form of toolbox health & safety talks. Contractors must conduct their own toolbox talks and submit proof of these talks in the form of attendance registers to the Principal Contractor at least every two weeks. Every worker on site must undergo such toolbox safety talks with the attendance registers kept in the Principal Contractor's safety file.

Contractors must conduct their own hazard identifications and risk assessments specific to their operations and forward a copy to the Principal Contractor.

The Principal Contractor when required must report on the status of these Contractor risk assessments to the Polokwane Municipality i.e. at audits.

3.4.7 General Record Keeping

The Principal Contractor and all Contractors must keep and maintain all the necessary Health and Safety records to demonstrate compliance with these Coherent Specifications, the OHS Act 85/1993, and the Construction Regulations (February 2014). The Principal Contractor must also ensure that all records of incidents/injuries, emergency procedures, training, planned maintenance inspections, monthly contractor audits, etc. are kept in the health

& safety file(s) held in the site office. The Principal Contractor must ensure that every Contractor keeps its own health & safety file, maintains the file, and makes it available on request (the file must include the Contractor's health & safety plan and all relevant records). Such 'Contractor safety files' must be audited by the Principal Contractor monthly with audit reports kept as proof.

3.4.8 Injury / Incident Reporting and Investigation

Injuries are to be categorised into first aid; medical; disabling (lost day); and fatal. When reporting injuries to the Polokwane Municipality, these categories must be used. The Principal Contractor must investigate all injuries. All Contractors must report injuries to the Principal Contractor immediately and the Principal Contractor must inform the Polokwane Municipality immediately. All incidents reportable in terms of the provisions of Section 24 of the OHS Act must be reported to the local Dept. of Labour in the prescribed manner.

3.4.9 Consolidation of Health & Safety Documentation

It is the duty of the Principal Contractor to ensure that all documentation required to be kept or generated during the construction phase is consolidated into one set of documents that must be handed over to the Polokwane Municipality upon completion of the construction work. This consolidated safety file(s) should include instructions from the design team that will be required for the continued safe operation and maintenance of the new structure(s).

3.4.10 Offences and Penalties

Penalties may be imposed on the Principal Contractor and Contractors for ongoing non-compliance with the provisions of the Polokwane Municipality's coherent health & safety specifications, the Principal Contractor's coherent health & safety plan, site health & safety procedures and rules. Non-compliances identified during safety agent audits and visits will be categorised into one of three levels based on severity. These will be as follows: Life threatening situation - a prohibition order will be issued by means of a written instruction in the site instruction book or an explanation in an audit report. This activity must be seized immediately, and corrective measures taken. Serious injury possible - a contravention notice will be issued with a time frame for compliance stipulated. Minor or no injury may result - an improvement notice will be issued. The corrective measures stipulated in the audit report must be taken. The methodology used to decide the above levels will be causally linked to the risk assessments of the Principal Contractor and contractors, Polokwane Municipality Standards. The decision of the safety Agent will be final.

3.5 Principal Contractors, Contractors and Sub-contractors

3.5.1 Principal Contractor's and Contractors' Requirements

The Principal Contractor must ensure that all Contractors appointed by them comply with these Specifications, the Principal coherent health & safety plan as well as the OHS Act, Construction Regulations (February 2014), and other relevant legislation that may relate to the activities directly or indirectly. A Contractor, when appointing other Contractors as 'Sub-contractors', shall mutatis mutandis ensure compliance as if it was the Principal Contractor.

The Principal Contractor may only allow a Contractor to begin work on site after receiving a coherent health & safety plan which must include a project specific hazard identification, risk assessments and safety measures. The Principal Contractor must test competency and finally approve his sub - contractor coherent site-specific health and safety plan. The Principal Contractor must audit each of its contractors monthly, with audit reports kept in the health & safety file on site. The audit must include an administrative assessment as well as a physical inspection of the contractor's site activities. *The Principal Contractor must stop any Contractor from carrying out construction work that is not in accordance with the Principal Contractor's and/or Contractor's health & safety plan or if there is an immediate threat to the health and safety of persons.*

The Principal Contractor shall take all reasonable steps necessary to ensure co-operation between all contractors to enable each of those contractors to comply with the provisions of the Construction Regulations;

The Principal Contractor shall take all reasonable steps to ensure that each contractor's coherent health and safety plan is implemented and maintained on the construction site: Provided that the steps taken shall include periodic audits at intervals mutually agreed upon between the Principal Contractor and contractors, but at least once every month;

The Principal Contractor must ensure that where changes are brought about to the design and construction, that sufficient health and safety information and appropriate resources are made available to contractors to allow them to execute the work safely;

The Principal Contractor must ensure that every contractor is registered and in good standing with a recognised compensation fund or with a licensed compensation insurer prior to work commencing on site;

The Principal Contractor must ensure that potential contractors submitting tenders have made provision for the cost of health and safety measures during the construction process;

The Principal Contractor shall discuss and negotiate with the contractor the contents of the coherent health and safety plan and shall finally approve that plan for implementation;

The Principal Contractor shall hand over a consolidated health and safety file to the Polokwane Municipality upon completion of the construction work and shall include a record of all drawings, designs, materials used and other similar information concerning the completed structure;

The Principal Contractor may only appoint a contractor to perform construction work when such Principal Contractor is reasonably satisfied that the contractor he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely and that the contractor is an approved Polokwane Municipality contractor.

3.5.2 *Principal Contractor / Contractor Competency Assessment*

The Principal Contractor must be reasonably satisfied that the contractors it intends to appoint have the necessary competencies and resources to safely conduct the work they will be appointed for. This should be established at tender stage and before appointments are made. One of the preferred ways of determining whether a contractor is competent is to make sure the contractor is an accredited contractor for Polokwane Municipality. Once the contractor is appointed, but before it begins work on site a site- specific safety plan must be discussed and negotiated with the Principal Contractor. Such safety plan must be approved for implementation by the Principal Contractor.

The Principal Contractor and Contractors should submit the following documentation for perusal and verification by the Polokwane Municipality and Principal Contractor respectively:

- Coherent health & safety plan as compiled for this project; (including Risk assessments, safe work procedures, fall protection plan, PTW Issuer/PTW Holder certificates)
- Management Structure as envisaged at tender (organogram);
- Letter of Good Standing with the Compensation Commissioner or FEM;
- Proof of health & safety training and other related training; (CV and certificates) Legislative appointment letters
- Notification of Construction work; (proof notification was done)

3.5.3 Pricing for Occupational Health & Safety Compliance

All parties bidding to do work on this construction project must ensure that they have made provision for the cost of complying with this Specifications document as well as with the OHS Act and incorporated Regulations as a minimum requirement in their tender documentation. It must also be taken into consideration that time is money, which implies that sufficient time must be allowed for the implementation of the minimum OHS standards. No additional claims will be entertained at a later stage should a compliance

requirement be prescribed in the OHS Act, incorporated regulations or in this Specifications document.

3.5.4 *Contractors' Coherent Health & Safety Plans [Construction Regulations 7]*

1. Introduction:

The Construction Regulations (2014) aims to improve overall management and co-ordination of Health, Safety and Welfare throughout the Construction Phase and reduce the large number of serious and fatal injuries and cases of ill health, which occur every year in the Construction Industry.

In terms of the Construction Regulations (2014), the Principal Contractor is required to develop a Health and Safety Plan before work commences on site and review it throughout the Construction Phase. The degree of detail required in the Health and Safety Plan and the time and effort in preparing it should be in proportion to the nature, size and level of Health and Safety risks involved in the project. Projects involving minimal risks will call for simple, straightforward plans. Large projects or those involving significant risks such as this project will need much more detail.

2. What should the construction health & safety plan cover?

The Construction Health and Safety Plan should set out the arrangements for ensuring the Health and Safety of everyone carrying out the construction work as well as all other persons who may be affected by it. The index of this plan must be in line with Annexure:

3.5.5 *Communication and Management of the work*

The Principal Contractor must indicate in its health and safety management plan that it has made provision for the following:

- a. Management structure and responsibilities
- b. Health and Safety goals for the project and arrangements for monitoring and review of Health and Safety performance i.e. safety meetings; contractor meetings; risk assessment review, etc
- c. Arrangement for:
 - i. Regular liaison between parties on site i.e. meetings
 - ii. Consultation with the work force i.e. toolbox talks
 - iii. The exchange of design information between the Polokwane Municipality, designers, and Contractors on site
 - iv. Selection and control of Contractors i.e. selection criteria; inspections; audits, etc.
 - v. Site health & safety induction and onsite training i.e. toolbox talks
 - vi. Welfare facilities, first aid, emergency planning and fire prevention

- strategy
- vii. The reporting and investigation of injuries and incidents including near misses what the intended system will be
- viii. The production, approval and review of risk assessments, safe work procedures and method statements and how does the company's risk assessment system work.
- d. Site specific rules and procedures.

3.6 Polokwane Municipality identified Hazards and Potentially Hazardous Situations

See attachment.

Other possible risks you need to consider.

- 1. Existing services**
- 2. Interface with the public**
- 3. Hazardous chemical such as solvents, cleaning agents, cement, fuels, oils, epoxies, etc.**
- 4. Site security and access control issues**
- 5. Relocation and protection of existing services**
- 6. Finishing trades**

3.6.1 Unforeseeable Hazards

The Principal Contractor must immediately notify Contractors as well as the Polokwane Municipality, in writing, of any hazardous or potentially hazardous situations that may arise during the performance of construction activities so that the necessary precautions may be taken before such work begins.

3.7 Site Operational Requirements

3.7.1 Health and Safety Representative(s)

The Principal Contractor and all Contractors must ensure that Health and Safety Representative(s) are appointed under consultation with the employees. The H&S representatives must be competent to carry out their functions. The appointments must be in writing. The Health and Safety Representatives should carry out monthly inspections, keep records of the inspections and report all findings to the Responsible Person or safety officer forthwith and at monthly health & safety committee meetings. At least one Health & safety representatives are required by all Employers on site.

3.7.2

Health and Safety Committees

The Principal Contractor must ensure that project health and safety committee meetings are held monthly with minutes kept. Meetings must be chaired by the Principal Contractor's Responsible Person [CR 7(1) person]. All Contractors'

Responsible Persons and Health & Safety Representatives must attend the Principal Contractor's monthly health & safety meetings. The Principal Contractor's appointed supervisors must also attend health & safety meetings. The following topics must be tabled at meetings: management appointments and risk management portfolios; sub-contractor legal compliance issues; injuries and incidents; hazards and risk assessments (present and foreseen); safety procedures; method statements for upcoming activities; planned inspections and registers/record keeping, etc. The committee chairperson must sign off and date the minutes.

3.7.3

Health and Safety Training

3.7.3.1 Induction

The Principal Contractor must ensure that all site personnel including all sub-contractors undergo the agreed health & safety induction training session held and managed by the P/Contractor before any worker starts work on the project. A record of attendance must be kept in the health & safety file. Workers must carry proof of inductions on their person while on site i.e. identification passport cards or like be agreed.

3.7.3.2 Awareness

The Principal Contractor must ensure that, on site, periodic toolbox health & safety talks take place at least once every two weeks. All site personnel including all sub-contractors must attend safety talks at such intervals and keep proof thereof. These talks should deal with risks relevant to the construction work at hand i.e. they should be based on the job-specific risk assessments and safe work procedures. Records of attendance must be kept in the P/contractor's health & safety file. All contractors' employees must attend safety awareness toolbox talks carried out by their supervisors; the attendance registers must be copied to the Principal Contractor together with information on the information discussed at the session.

3.7.3.3 Competence

All competent persons must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control and/or carry out. This must be assessed on a regular basis e.g. training, evaluation, and periodic audits by the Polokwane Municipality, progress meetings, etc. The Principal Contractor is responsible to ensure that Competent Contractors are appointed to carry out construction work on site.

3.7.4

Health & Safety Audits, Monitoring and Reporting

The Principal Contractor is obligated to conduct monthly audits on all Contractors appointed by it and keep audit reports in its health & safety file. Contractors must audit their sub-contractors and keep records of these audits in *their* health & safety files, made available on request. The Polokwane Municipality IAgent will conduct monthly audits on the Principal Contractors' safety management plan.

3.7.5

Emergency Procedures

The procedure must detail the response procedures including the following key elements:

- List of key competent personnel;
- Details of emergency services;
- Actions or steps to be taken in the event of the specific types of emergencies;
- Evacuation procedures: including routes and exits to be available on a drawing.
- Emergency procedure(s) must include, but shall not be limited to fire; spills; injury to employees; damage to material / equipment / plant; use of hazardous substances; bomb threats; major incidents/injuries; evacuation; etc.
- The Principal Contractor must advise the Polokwane Municipality in writing forthwith, of any emergency situations, together with a record of action taken/action to be taken.
- A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and made available to site personnel.
- The emergency plan will need to be reviewed from time to time as conditions/environment changes i.e. as building work increases in extent.

3.7.6

First Aid Boxes and First Aid Equipment

The Principal Contractor and all Contractors must appoint First Aider(s) in writing. The Principal Contractor must appoint at least one First Aider to start with, which first aider must be certificated. Copies of valid certificates are to be kept on site. The Principal Contractor must provide at least 1 (one) first aid box, adequately always stocked. Due to the nature of this project i.e. satellite workstations/areas, further first aid boxes must be provided close to the various workstations to allow for quick, effective treatment of injured persons. As the work progresses and the structure increases in height, extra first aid

3.7.7

Personal Protective Equipment (PPE) and Clothing

The Contractor must ensure that all site workers are issued with and wear the appropriate PPE as indicated in their risk assessments. The Contractors must always make provision and keep adequate quantities of SANS approved PPE on site according to their risk assessments. Safety harnesses are mandatory wherever work takes place in an elevated area where safe working platforms or ladders are not possible. Overalls clearly indicating the Contractor's logo must be worn and all sub-contractors must conform to this requirement. Eye protection must be worn by those working grinders, skill saws, and high- pressure water cleaners. Even those workers near these operations will also be required to wear such eye protection.

Safe footwear will be required by all workers. A high visibility vest is mandatory on a Polokwane Municipality site.

3.7.8

Occupational Health and Safety (OHS) Signage

The Principal Contractor must provide adequate on-site OHS signage. Including but not limited to: 'construction work - no unauthorised entry', 'beware of overhead work', 'hard hat area', first aid - to be posted up at all work areas/zones.

Signage must also be posted up at strategic locations to warn the public of diversions, alternative through ways and other irregularities caused by construction work (pedestrians and motorists).

Signs are also required as per law e.g. scaffolding and other potential risk areas/operations such as exposed edges and openings and trenches/excavations where persons are at work. Safety signs and awareness posters will also be required in strategic locations on site such as frequently used access routes, stairways, and entrances to structures and buildings where the workers will continuously be made aware of health & safety. Health & safety signage must be well maintained including weekly inspections, cleaning, replacement, and repair.

3.7.9

Public and Site Visitor Health & Safety

Public walkways and roadways must be kept clean and free of construction materials to prevent any negative impact on the public. Public roadways and walkways will have to be cleaned on a regular basis - daily inspections to be conducted by the Principal Contractor with action to be taken without delay (daily).

Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be taken to control these hazards. The Construction Regulations require that a record of these 'inductions' be kept on site. It is advised that a visitor book with site rules leaflet be kept at the

reception/site office and all visitors to be directed to such point where they must read through the site safety information and sign the visitor book. It will be the Principal Contractor's prerogative to decide whether site visitors require supervision while on site. Visitor hard hats must be kept in the site office.

3.7.10 Access to Site

Where any permits are necessary from the local authorities, this will be the Principal Contractor's responsibility. The road surface of all public and private roadways and pavements/pedestrian walkways must remain in a reasonably clean state, free of excessive sand, stone, water, or other construction related materials. The access gate(s) must be controlled, and visitors must sign in and report to the site office for further instruction.

3.7.11 Night Work (After Hours)

No night work will be allowed within the hazardous zone on this project without prior approval from the Polokwane Municipality /Polokwane Municipality 's Agent and the Construction Health and Safety Agent. Additional health and safety requirements will then be applicable.

3.7.12 Transport of Workers

The Principal Contractor and other Contractors may not transport:

Persons together with goods or tools unless there is an appropriate area or section to store the tools or equipment; Contractors must adhere to the National Road Traffic Act.

3.7.13 Construction Health & Safety Officer

A full-time construction safety officer (in terms of Construction Regulation 8) will be required on this project. **The construction health and safety officer must be registered with SACPCMP.** The construction officer will be required to carry out at least the following duties:

- a) Health & safety audits and inspections on site including administrative and physical audits of all Contractors' health & safety plans, files and activities, and record findings in the form of audit reports to be kept in the health & safety file; b) Assess, and finally approve contractor safety plans;

3.8 Physical Requirements

3.8.1 Earthworks (including Trenching and excavations)

The Principal Contractor and relevant Contractors must make provision in their tender for the shoring of excavations where the soil conditions warrant it or if this is not possible cut it back -excavation walls must be battered back to a safe angle, termed the safe angle of repose.

The Principal Contractor has the following options: first option is to shore or brace the excavation, should this not be practical then such excavation must be battered back to the safe angle of repose (second option). Should the first two options not be deemed necessary by the Contractor, then permission must be given in writing by the appointed competent excavation supervisor (third option). Where uncertainty pertaining to the stability of the soil exists, the decision of a professional engineer or professional technologist competent in excavations shall be decisive. Such permission must be in writing.

The following is relevant to excavations:

- Excavations/trenches are inspected before every shift and a record of these inspections is kept;
- Safe work procedures have been communicated to the workers;
- The safe work procedures are always enforced and maintained by the Principal Contractor's and Contractors' responsible persons;
- Excavations next to permanent or temporary roadways - ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endangering the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;
- Ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken that may be necessary to ensure the stability of such building, structure or road as well as the safety of persons
- Cause convenient and safe means of access to be provided into every excavation in which persons are required to work and such access shall not be further than 6m from the point where any worker within the excavation is working;
- Ascertain as far as is reasonably practicable, the location and nature of electricity, water, gas, or other similar services which may in any way be affected by the work to be performed. The necessary steps must then be taken to render the circumstances safe for all persons involved;
- Cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or where the safety of persons may be endangered, to be
- Adequately protected by a barrier or fence of at least one meter in height and as close to the excavation as is practicable; and provided with warning illuminates or any other clearly visible boundary indicators at night or when visibility is poor;
- Cause warning signs to be positioned next to an excavation within which persons

are working or carrying out inspections or tests.

3.8.2 *Edge Protection, Barricading and Penetrations (CR 10)*

A Contractor must ensure that—

- All unprotected openings in floors, edges, slabs, hatchways, and stairways are adequately guarded, fenced, or barricaded or that similar means are used to safeguard any person from falling through such openings;
- No person is required to work in a fall risk position, unless such work is performed safely as contemplated in sub-regulation (2);
- A detailed Fall Arrest and Rescue Plan will be drafted and implemented on site.
- The above-mentioned plan will be demonstrated on instruction of the Polokwane Municipality's Agent.

3.8.3 *Deliveries, Waste Removal, Stacking/Storage of Materials*

The Principal Contractor and other relevant contractors must ensure that there is an appointed stacking supervisor and all materials, formwork and all equipment is stacked and stored safely, on level, compact ground, out of access ways and no more than three times the minimum base width in height. Pallets of bricks may not be stacked more than two above each other and must be on timber pallets. No construction materials or equipment may be stacked or stored in public areas unless authorised by the Polokwane Municipality and fenced off as per the Polokwane Municipality's requirements. Waste materials must be kept within designated construction zones. The Principal Contractor will be responsible for co-ordinating and managing this function.

3.8.4 *Fire Extinguishers and Fire Fighting Equipment*

The Principal Contractor and relevant Contractors shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted up as required. A minimum of four 9 kg dry chemical powder fire extinguishers must be available in and around the site office establishment and stores. Fire extinguishers must also be placed at all work zones/areas, in strategic locations. Wherever *'hot work' is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with hot work procedures and must be in possession of method statements detailing the safe working procedures. *'Hot work' includes all work that generates a spark or flame and may therefore result in a fire.

Further, during the finishing stages of the construction phase when the finishing trades are on site, fire extinguishers will be required at strategic locations within the work areas – to be supplied and managed by the Principal Contractor.

3.8.5

Traffic Control

The Principal Contractor shall ensure that a fulltime traffic safety officer be appointed in writing, upon the commencement of construction activities. The traffic safety officer shall be tasked with regular inspections and movement of road traffic signs as per the approved traffic accommodation plans and will report to the safety officer.

The principal Contractor must prepare a site specific a Traffic Accommodation Plan that should be signed off by the relevant appointed Engineer on this project.

This document must indicate the potential risk to the public or environment posed by all vehicles travelling to and from the areas of construction for the purpose of the construction work and proposes methods to eradicate or minimize these risks. Such a plan must include the following aspects:

- Design of Traffic Management Plan
- Site specific base line risk assessment
- Protection of employees
- Protection of pedestrians
- Specific signage and distances applicable
- Applicable training
- Appointments of road safety officers
- Management after hours/weekend/adverse weather conditions
- Setup and clearing of signage

Only SABS approved temporary road signage must be used. Note that the Principal Contractor must always have enough signage available.

The Principal Contractor will also put in place flagmen to control the entry and exit of vehicles to and from the site onto the public road. These flag personnel must be highly visible and must have been trained. Flag personnel may not use cell phones while on duty.

3.9 Plant, Machinery and Equipment

3.9.1

Construction Vehicles & Mobile Plant

"Construction Plant" includes all types of plant including but not limited to, cranes, piling rigs, excavators, construction vehicles, compaction plant, batchplants and lifting equipment.

The Principal Contractor must ensure that such plant complies with the requirements of the OHS Act, Construction Regulations (Feb 2014) and any manufacturers specifications. The Principal Contractor and all relevant

contractors must inspect and keep records of inspections on construction vehicles and mobile plant used on site. Only authorised/competent persons in the possession of the necessary training certificates and in possession of a certificate of medical fitness may operate construction vehicles and mobile plant.

Appropriate PPE and clothing must always be provided and maintained in good condition.

Reverse alarms must be installed on construction vehicles i.e. trucks, diggerloaders, etc.

Vehicles and pedestrian traffic must be safely separated, preventing any unnecessary interfacing.

Any vehicle or mobile plant using any public road must be roadworthy and carry a certificate proving this. Likewise, any operator of such construction vehicle or mobile plant will have to carry the necessary driver's license.

3.9.2 Pressure Equipment

The Principal Contractor and all relevant Contractors must comply with the Pressure Equipment Regulations, including:

Providing competency and awareness training to the operators/users; Providing the relevant PPE and clothing;

Inspecting equipment regularly (every 3 months) and keeping records of these inspections;
Providing appropriate firefighting equipment (Fire Extinguishers) on hand;

Ensuring that oxygen and acetylene bottles are secured in an upright position, do not show signs of corrosion or damage, and have flash back arrestors fitted on both torch & bottle ends of hoses.

3.9.3 Hired Plant and Machinery

The Principal Contractor must ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislated requirements. The necessary requirements as stipulated by the OHS Act and Construction Regulations shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that competency and medical certificates are kept on site in the health & safety file. Any load test requirements and inspections in terms of legislation must be complied with and copies of load test certificates and inspections must be kept in the health & safety file. All relevant contractors

3.9.4

General Machinery

The Principal Contractor and relevant contractors must ensure compliance with the Driven Machinery Regulations, which includes carrying out risk assessments on the machines, inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE and relevant clothing, and training those who use machinery.

3.9.5

Electrical Installations and Portable Electrical Tools

The Polokwane Municipality will ensure as far as possible that the Principal Contractor is made aware of the positions of all electrical power lines. The Principal Contractor must notify the Polokwane Municipality should it not be sure of the location of any electrical power lines.

The Principal Contractor must comply with the Electrical Installation Regulations, the Electrical Machinery Regulations, and the Construction Regulations (CR 24).

The Principal Contractor must keep a copy of the Certificate of Compliance (CoC) for its temporary electrical power supply. A revised CoC is required whenever the installation is altered or changed in any way. All temporary electrical installations must be inspected at least weekly by a competent person appointed in writing with records kept. Portable electrical tools and equipment must be visually inspected daily with records kept. It is advised that the P/Contractor appoints the electrical contractor to inspect the temporary electrical installation on a weekly basis with feedback given in a report so that any maintenance and repairs can be undertaken. Such appointed inspector must 'stop' or isolate any distribution board that is unsafe for use.

3.10

Occupational Health

3.10.1

Industrial Hygiene (exposure to physical and chemical stress factors)

Exposure of workers to occupational health hazards and risks is quite common in any work environment, especially in construction. Occupational exposure is a major problem, and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, and adsorption through the skin of hazardous chemical substances.

3.10.1.1 Noise induced hearing loss is a highly underrated occupational condition. Occupational noise emitted by construction machinery and power tools must be controlled as far as possible by implementing engineering solutions such as noise dampening, regular maintenance, servicing, and inspection, screening off the noise, and reducing the number of persons exposed. Personal protective equipment such as earmuffs and earplugs must also be used in conjunction with

engineering controls to reduce noise exposure to below the acceptable levels.

3.10.1.2 Ergonomics is the study of how workers relate to their workstations. We advise the Principal Contractor and Contractors to take this into consideration when conducting risk assessments, thereby improving the worker-task relationship, which will in turn improve productivity and reduce chronic conditions such as back strains, joint problems and mental fatigue, amongst others.

3.10.2 *Hazardous Chemical Substances (HCS)*

The Principal Contractor and other relevant contractors must provide the necessary training and information as far as the use, transport, and storage of HCS. The Principal Contractor must ensure that the use, transport, and storage of HCS are carried out as prescribed in the HCS Regulations. The Principal Contractor and contractors must ensure that all hazardous chemicals on site have Material Safety Data Sheets (MSDS) on site and the users are made aware of the hazards and precautions that need to be taken when using the chemicals. The First Aiders must be made aware of the MSDS's and how to treat HCS incidents appropriately. Copies of the MSDS's must be kept in the first aid box and in the store. All containers must be clearly labelled.

Flammable substances must be stored separately, away from other materials, and in a well-ventilated area (appropriate cross ventilation). A competent person should be appointed to be in control of this portfolio.

Stores must be well ventilated, preventing the build-up of flammable and toxic gases/vapours. Should fuel storage containers be used, they must conform to the general environmental legislation and Environmental Management Plan (if a requirement on this site). The necessary safety signage must be posted up -'no naked flames', 'no smoking'. Two 9 kg DCP fire extinguishers must be placed near to the fuel containers, but not within 5 m of the containers. These extinguishers are over and above the minimum four required for the offices and stores.

3.10.3 *Welfare Facilities*

The Principal Contractor must supply sufficient toilets (1 toilet per 30 workers), clean, lockable changing facilities, hand washing facilities, soap, toilet paper, and hand drying material. Waste bins must be strategically placed around site and emptied regularly. Workers must not be exposed to hazardous materials/substances while eating and must be provided with adequate, sheltered eating areas complete with benches and tables. Stores may not double up as change rooms or mess areas.

3.10.4 *Alcohol and other Drugs*

No alcohol and/or other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any

person on prescription medication must inform his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suffering from any illness/condition that may have a negative effect on his/her anyone else's health or safety performance must report this to his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. The Contractor concerned must follow a full disciplinary procedure and a copy of the disciplinary action must be forwarded to the Principal Contractor for its records.

3.10.5

COVID- 19

Response plan

This International pandemic will force the contractors and clients to think about the workplace that the employees work in and the applicable PPE to safeguard the employees against this COVID 19 virus. Polokwane Municipality have drawn up a checklist with all the necessary equipment and guidelines that will need to be in place before construction can start. The checklists are written using the above-mentioned acts, regulations, and guidelines. This checklist is listed as annexure A. The SHE committee shall have a meeting in the first week of starting to discuss the plan forward with COVID 19.

Access control

The client and the contractor will remain responsible to ensure that the correct measures are taken at the entrance of the construction site. The contractor shall have a thermometer available at each entrance to measure the temperature of each of the employees and visitors that enters and exits the site. The following is equipment and processes that will need to be in place at each entrance:

NOTE: This shall be done when entering the site as well as exiting the site every time

- Employee or security available at each gate
- Every entrance to site must have a thermometer
- Every entrance shall have a sanitation bottle to sanitize every person entering the site's hands
- Every person shall complete the sign in register that will enable the contractor to track the person in case of a possible positive case
- Non-essential visitors will not be allowed to enter the site
- All persons entering the site shall have a mask or a face shield on when entering, if not no access will be given to the person
- All hand sanitizer that is used must have 70% alcohol and the certificate must be available on site

Documents that need to be updated

Document control will be a critical path to ensure that all employees know the exact risks and mitigation factors around the COVID 19 virus.

- Baseline risk assessment shall be written on COVID 19 to ensure all the risks are covered and discussed to the employees
- Health and safety policy would need to be changed to address the COVID 19 pandemic
- All safe work procedures shall cover COVID 19
- COVID 19 guideline or procedure shall be drawn up and available in the safety file and discussed to all employees. This procedure will explain how the contractor will ensure that the virus does not spread during construction
- A guideline on what the process will be if an employee or a visitor is showing symptoms of the COVID 19 virus
- COVID 19 Toolbox talks shall be held with all employees to explain to the employees what the COVID 19 virus is
- Applicable Checklist & register should be in place to ensure that all the measures that are stipulated in the Client OHS Spec, Baseline Risk assessment, COVID procedure and contractor OHS Plan
- Sign in register will need to be available at every site entrance where the employee or site security can write down the temperature of the employee or Visitor
- All Health and safety related policies will need to be revised to ensure that COVID 19 is covered and explained in all of them in the applicable manner
- COVID 19 manager shall be appointed on site. This employee shall be on site full-time.

Hand sanitation points

Hand sanitation points will need to be placed at strategic places as well as the high-risk area. The first place where sanitation station shall be placed is at all site entrances. High risk areas will be identified by the following:

- Areas where employees are in frequent and/or close contact (i.e. within 1,5 Meter of people)

The high-risk areas will have additional sanitation stations, all employees shall wear mask or face shield when working closer than 1,5 Meter from the nearest employee. Employees will be trained to wash hands more frequently or to use sanitizer more frequently.

The hand sanitizer that will be used shall have more than 70% of Ethyl alcohol. This needs to be ensured by the safety office on site as well as a Material Safety Data Sheet (MSDS) available close by for confirmation of the 70%. The hazardous chemical register shall be available in the flammable store. This register shall also include the hand sanitizer.

Hand washing posters shall be available at all hand washing stations to ensure that all employees know what the correct way is of washing your hands to cover all the areas. Informational posters about COVID 19 shall also be visible at these areas to ensure that employees know how the virus spreads and how to prevent spreading. The sanitisation stations will need to be cleaned on a regular basis.

Cleaning & disinfecting

All work surfaces need to be cleaned and disinfected on a regular basis. The chemical that will be used to clean the surfaces must have a minimum of 70% Ethyl Alcohol and the MSDS for that specific sanitizer must be available in the safety file under the MSDS's section. Plant, site offices & construction sites shall be decontaminated before the start of the site. The contractor that decontaminated the site shall issue a certificate to explain it has been done and explain what chemicals was used.

Offices

- All offices must have a biochemical hazardous bin with a medical waste bag that can be sealed
- The offices need to be cleaned on a regular basis
- If disposable gloves are being used, they must be discarded in the medical waste bin.
- Only employees that is working in the office will be allowed in the offices
- All visitors must arrange with office personnel if they have an appointment with one of the office employees to move outside and have the appointment outside or in a well-ventilated area and if possible, keep social distancing distance (1,5 Meter)
- Cleaners must focus on cleaning the following areas: desks, printers, door handles, kettles, microwaves & office equipment (cabinets, staplers, punchers)etc.
- No utensils shall be shared
- All employees shall sanitise their hands before and after using buildingplans

Ablution Facilities

- All ablution facilities shall have a washing station or a sanitation station.
- Sufficient paper towels shall be available to dry off hands after sanitizing
- All ablution facilities must have a biochemical hazardous bin, with a medical waste bag that can be sealed
- Paper towels shall be discarded into the medical waste bin provided at the ablution facilities
- Ablution facilities must always be cleaned on a more regular basis to ensure a clean surface
- Chemical toilets ratio is reduced to 1-10 employees and flush toilets ratio is reduced 1-15 employees
- Cleaners must focus on the most touch areas when cleaning ablution facilities (toilet handles, door handles, taps, basins surfaces, toilet seats etc.)

Eating areas

The eating areas in construction is a high risk since the employees undernormal circumstances would have sit within 1, 5 Meter of each other.

- Eating areas will need to make bigger to accommodate all employees at once but still implement social distancing of 1, 5 Meter at least.
- All eating areas must have a biochemical hazardous bin, with a medicalwaste bag that can be sealed
- All Servite that was used or paper towels that was used to dry hands afterusing the sanitation station must be discarded in the hazardous bin.
- All eating areas shall have a washing station or a sanitation station
- Lunch breaks should be staggered between contractors / employees to ensure that during lunch the social distancing 1, 5 Meter can still be implemented.
- All chairs, Tabletops and drinking water taps need to be cleaned after eachlunch break
- Notice board shall be placed at the eating area to ensure that all employeessee all posters and notices
- Clean drinking water need to be supplied to all employees at the eating area

Waste management

The waste management on site will be a critical path and will need to be monitored. The PPE and cleaning material that will be discarded will be medical (biological hazardous) waste. This will need to be separated from normal waste, all medical waste bins will need to have a waste bag that can seal and need to be removed by a registered service provider. Hazardous bins shall be foot operated to ensure employees do not touch the lid of the hazardous bin.

Paper towels

Paper towels shall be supplied to by the contractor at all sanitation stations and washing stations for employees to dry their hands. These towel papers will be discarded in the medical waste bins. The contractor shall ensure that sufficient paper towels is in storage for a fast and effective replacements

PPE

All disposable PPE shall be discarded in these medical waste bins. DisposablePPE will be the following: dust masks, surgical masks etc.

Disinfectants

The sanitizers that will be available throughout the site if finished and not refilled will be discarded as medical waste. The contractor must ensure that sufficient stock of hand sanitizer and soap is available in the storeroom. This chemicals and soap shall be recorded as it is booked out of the storeroom.

Wastewater

The water that will be used at the hand washing points will need to be stored in a container with a lid. This infected water will then need to be treated before the water can be discarded in a normal municipal sewage system.

Personal Protective Equipment (PPE)

COVID 19 can be prevented from spreading using the correct PPE. The COVID 19 virus is spread by small droplets that can enter the body at the face through the nose, mouth, and the eyes. These are the critical areas that must be protected at all cost to prevent the employees from getting the feared COVID 19 virus.

The disposable PPE will be treated as biological hazardous waste as explained above in waste management

The Contractor shall supply all employees with 2 cloth masks (1 to wear, 1 to wash). The cloth masks will be checked every morning at the entrance of the gate to ensure that employees are washing the cloth masks. This is an example of a cloth mask:

If the employees are working in a high-risk area, the contractor will need to have a look at alternative measures to protect the employee's eyes as well as mouth and nose area. Face shields are a perfect example of an alternative way to protect our workers. There are different types of face shields on the market, from loose face shields with a strap to face shield and hard hat combination.

Below is an example of these alternative equipment that will need to be in place in high risk areas when possible:

Employees will only be required to wear hand gloves when the task will require it (will be stipulated in the risk assessment). When for example the employee will do grinding work and the face shield will not last then the employee will be required to wear goggles and a normal dust mask.

Accommodation

When the contractor provides accommodation to the employees on site the following shall be in place:

- The quantity of employees must be looked at that is accommodated onsite
- The restrictions on the number of employees using the same ablution facilities
- Cutlery & utensils shall not be shared between employees
- Social distancing between employees (at least 1,5 Meter) when in sleeping quarters and in cooking facilities
- The employees shall practice good personal hygiene and shall sanitise areas that on a regular basis that is used by all employees
- Employees shall not share any personal belongings with each other for example: clothes & towels

Transportation

The transportation of employees shall be monitored by the site safety officer as well as site management. Transportation will be arranged that all employees always implement the social distance of at least 1, 5 Meter from each other. Employee using transportation as well as drivers will always wear mask to prevent the spread of the virus. Employees shall sanitize their hands before using transportation and after using transportation. Transporting employees in big quantities must always be prevented if possible. All transport shall be disinfected before and after use. If employees drive with personal transport, sufficient parking must be made available

COVID 19 Signage's

The applicable signage's shall be displayed at all the applicable places for example all the notice boards that is identified in this document. The contractor shall as far as reasonably practicable post posters about COVID 19 to ensure that all employees know the essential information of the virus. The signage's will be essential to show employees with the use of pictograms what is the most important factors to keep in mind on site. All hand sanitation station shall have a sign that states it is a sanitation station and while have a poster to explain to employees exactly how to wash their hands to prevent getting infected.

This is examples of signs that shall be visible all over site to keep reminding employees of the risks. The site entrances shall get additional signage's to explain to visitor and employees the applicable PPE for the site. These signs are examples of signs that shall be visible at the site entrances:

COVID 19 Posters

The contractor will be responsible to display posters on all notice boards on site as stipulated to ensure that employees are informed of the COVID 19 virus. The responsibility is with the contractor to communicate these posters to the employees and train them on all the precaution measures and keep them informed.

3 Omissions from the Site-Specific Health and Safety Specifications

Every endeavor has been made to address the most critical aspects relating to Health and Safety issues to assist the contractor in adequately providing for the Health and Safety of employees on site. However, the Principal Contractor is required to ensure they stay compliant with statutory requirements and construction programs and processes and include such aspects in their Health and Safety File.

PRIMARY HEALTH AND SAFETY COMPLIANCE

Project: **STORM WATER CANAL PHASE 2.**

ANNEXURE A

The Principal Contractor and Contractors must submit compliance with Annexure 'A' before commencing on work on site. **Compliance with Annexure 'A' must be maintained and proven to the Safety Agent at audits.**

HSS Item no.	Requirement	Legal Reference	Compliance required:
A1	Health & Safety Plan (H & S Plan)	Constructions Regs.	Within one weeks of receipt of these specifications
A2	Notification of intention to commence construction / building work	Complete schedule 1 (Construction Regs.)	Before commencement on site
A3	Assignment of responsible persons to supervise construction work	OHS Act ~ Section 16(2) appointee ~ all written appointments under the construction regulations 2014	Before commencement on site
A4	Competence of responsible persons in the form of CV's related work history of appointees	OHS Act ~ Section 16(2) appointee ~ all written appointments under the construction regulations 2014	Together with H & S Plan
A5	Compensation for occupational injuries and diseases - proof of registration and in good standing	COIDA or FEMA	Together with H & S Plan
A6	Health and safety organogram showing all safety management portfolios and positions	Polokwane Municipality requirement	Together with H & S Plan
A7	Initial hazard identification and risk assessment document	Construction regulations	Together with H & S Plan
A8	Fall protection plan (first draft) as defined in the construction regulations	Construction regulations	Together with H & S Plan

HSS = health & safety specifications OHS Act = occupational health & safety Act CR = construction regulations

COIDA = compensation for occupational injuries and diseases Act

ASSIGNMENT OF PRINCIPAL CONTRACTOR'S AND CONTRACTORS' RESPONSIBLE PERSONS

Project: **STORM WATER CANAL PHASE 2.**

ANNEXURE B

The Principal Contractor must make all the management appointments as set out below. Compliance with annexure 'B' to be maintained and proven to the safety agent at audits (Further appointments could become necessary as the project progresses).

Item no.	Appointment	Legal Reference	Requirement
B1	CEO Assignee	Section 16(2)	A competent person to assist the CEO in achieving compliance with the OHS Act - PIC Contractor's I Contractor's Responsible person
B2	Construction Work Manager	CR 8(1)	A full time competent person to Supervise and be responsible for health & safety related issues on site. The person is appointed by the Section 16(2)
B3	Assistant Construction Work Manager	CR 8(2)	A full time competent person(s) to assist the CR 8(1) appointee with daily supervision of construction work safety. One of the CR8(2) appointees must be designated to fulfill the role of the CR6(1) when such person is not on site. Make this clear in the appointment letter
B4	Health & Safety Representative(s)	Section 17	A competent person(S) to be appointed to represent the workforce in H & S matters. Reps may attend safety meetings, conduct monthly site audits, attend incident / injury investigations and make recommendations as far as H&S goes.
B5	Health & Safety Committee Member(s)	Sectin 19	H&S reps, site supervisors / foreman and the safety officer should make up the committee, with the CR8(1) appointee chairing the committee.
B6	Incident Investigator	GAR 9	A competent person to head up the investigation team and co-ordinate incident / injury investigation ons site.
B7	Risk assessment co-ordinator	CR9	A competent person to co-ordinate the drafting / reviewing / distribution of risk assessments on behalf of the principal contractor. The same applies to contractors. NQF Level 5

B8	Fall protection plan co-ordinator	CR10	A competent person to co-ordinate the drafting / reviewing / distribution of Fall Protection Plan. The same applies to contractors. NQF Level 4
B9	Emergency plan co-ordinator	Contractor Needs to be in line with service stationERP	A competent person to co-ordinate the drafting / reviewing / distribution of the site emergency procedures / evacuation plan. Such person must be fulltime on site so as to take charge of emergency situations.
B10	First Aider(s)	GSR 3	A certified person to address first aid situations and take charge of injuries. Level 1 certificate
B11	Lifting machine and lifting tackle supervisor	DMR 18	A competent P/Contractor employee to co-ordinate the management of lifting machines and tackle, ensuring that such equipment is safe for use at all times, inspected when necessary and repaired when required. The operators, banks men and contractors to liaise with this person
B12	Scaffolding inspector	SANS 10085 - 2004	A competent person to inspect scaffolding before use and every time after bad weather, etc.
B13	Scaffold supervisor (P/Contractor)	SANS 10085 - 2004	A competent P/Contractor employee to supervise all scaffolding on site, ensuring that scaffolds are safe for use, inspected, extended / altered, repaired when required and that all trades are co-ordinated and authorised to work on such scaffolds
B14	Scaffoldieng erector	SANS 10085 - 2004	A competent person(s) to erect scaffolding - leader of the scaffold team
B15	Formwork & support work supervisor (Temporary Works)	CR12	A competent person to supervise all formwork & support work erection & dismantling. This person must also ensure that the equipment is safe and that all the necessary inspections (pre, during, post & every day thereafter) are carried out & records kept by the competent inspectors. Design drawings must be available to this supervisor.
B16	Excavation supervisor / inspector	CR13	A competent person to supervise & inspect excavation work (daily) and ensure that excavations are safe. Records of inspections must be kept by this person.

B17	Ladder inspector	GSR13A	A competent person to inspect ladders daily and ensure they are safe for use, keeping monthly record.
B18	Stacking supervisor	CR28	A competent person to supervise all stacking and storage operations
B19	Explosive powered tools inspector / supervisor	CR21	A competent person to inspect & clean the tool daily, store the tool in a safe location, ensure that cartridges are signed out and in, and control all operations thereof.
B20	Temporary electrical installations inspector	CR24	A competent person to inspect all temporary electrical installations. Including weekly inspections and record keeping.
B21	Portable Electrical Tool Inspector	CR 24	A competent person to co-ordinate / inspect portable electrical tools, leads and plugs.
B22	Fire-fighting equipment inspector	CR29	A competent person to co-ordinate & inspect fire fighting equipment. Including ad-hoc checks and monthly inspections with records kept.
B23	Construction vehicles & mobile plant supervisor	CR23	A competent person(s) to co-ordinate the safety of all construction vehicles & mobile plant. Ensuring that daily inspections are done and records kept, that safety measures are in place, that operators are certified and authorised to operate and that maintenance and services are carried out when required.
B24	Construction safety officer	CR8(6)	A competent person to fulfill the functions as set out in these HSS

GENERAL COMPLIANCE REQUIREMENTS

Project: **STORM WATER CANAL PHASE 2.**

ANNEXURE C

The Principal Contractor and Contractors must comply with but not be limited to the requirements tabled below:
Prove compliance with annexure 'C' at audits conducted by the safety agent.

Item no.	What	When	Output	Reviewed by Polokwane Municipality Agent
C1	Construction - phase Health & Safety Plan	Monthly review	Principal Contractor to indicate the status of Contractors health & safety plans	
C2	Health & Safety File(s)	Open file when construction begins and maintain throughout	Have file on hand at audits. Contractors to report on their file at monthly health & safety audits by the Principal Contractor.	
C3	OHS Act and relevant Regulations	Monthly review	To be kept in the health & safety file on site.	
C4	Health & Safety Induction training, PTW Procedures	Every worker before he/she starts work	Attendance registers to be kept	
C5	Awareness Training (Tool Box Talks)	At least once a week	Attendance registers to be kept	
C6	Health & Safety Meetings	Monthly	Meeting minutes to be kept	
C7	Health & Safety Reports	Monthly	<u>Report covering:</u> <ul style="list-style-type: none"> • Incidents / injuries and investigations • Non conformances by employees & Contractors - reports • Internal H&S audit reports 	

C8	Audits on contractors	Monthly	<p>Report covering:</p> <ul style="list-style-type: none"> • H&S File / Plan • WCA status • Appointment letters • Section 37(2) agreements • Risk assessment & safe work procedures • Physical site inspection • Any other contractor specific requirements 	
C9	Emergency procedured	Monthly evaluation of procedure	Compile written procedure as well as tel. Numbers	
C10	Risk assessments & fall protection plan	Updated and signed off	Documented risk assessments to be available	
C11	Method statements	Drawn up and distributed before workers are exposed to the risks	Documented set of method statements reviewed and signed off.	
C12	General Inspections	Daily	<p>Report OHS Act compliance:</p> <ul style="list-style-type: none"> • Excavations • Portable electrical tools • Formwork & support work • Explosive powered tools 	
C13	General Inspections	Daily	<ul style="list-style-type: none"> • Scaffolding • Temporary Electrical Installations 	
C14	General Inspections	Monthly	<ul style="list-style-type: none"> • Fire fighting equipment • Ladders 	

C15	General Inspections	Monthly	<ul style="list-style-type: none"> • Lifting tackle • Oxy-acetylene cutting & welding sets • Fall prevention and arrest equipment 	
C16	General Inspections	6-Monthly	<ul style="list-style-type: none"> • Lifting machines 	
C17	Load tests / performance tests	Annually / once erected, before use	<ul style="list-style-type: none"> • Lifting machines 	
C18	List of Contractors	List to be updated weekly	Compile a list of contractors: Name, supervisor, company tel. Numbers and trade.	
C19	Workman's Compensation	Ongoing	Compile a list of Contractors workman's Compensation proof of good standing.	
C20	Construction site rules & Section 37(2) Mandatary Agreements	Ongoing	Compile a list of all signed up Mandataries. Proof of agreement documents to be kept in H&S file.	

OCCUPATIONAL HEALTH & SAFETY – HEALTH & SAFETY COSTS TO BE INCLUDED IN THE PRINCIPAL CONTRACTOR'S / CONTRACTORS' PRICE

Project: **STORM WATER CANAL PHASE 2.**

ANNEXURE D

In terms of the Construction Regulations (2014), it is the Polokwane Municipality's duty to ensure that the cost for health & safety has been provided for by the Principal Contractor, before appointment.

Acting on behalf of our Polokwane Municipality, we require the following health & safety costs to be included by the Principal Contractor. It must be made noticeably clear that these are just some of the health & safety costs to be included in your tender price. It is the duty of the Principal Contractor and Contractors to ensure that all aspects of the Occupational Health & Safety Act 85/1993 and Construction Regulations are catered for.

Pricing for Occupational Health and Safety measures should include the following if applicable:

ITEM	DESCRIPTION
1	Supply of all items of Personal Protective Clothing/Equipment & ensure use thereof for full compliance
1.1	Steel toe capped safety boots
1.2	Overalls
1.3	Reflective vests (high visibility)
1.4	Hard hats
1.5	Dust masks
1.6	Hearing protection
1.7	Hand gloves
1.8	Any other: Principal Contractor to specify
2	Supply and provision of Equipment for working at Heights & ensure use thereof for full compliance
2.1	Fall protection equipment (Safety Harness)
2.2	Double lanyard harness
2.3	Fall protection plan
2.4	Scaffolding access ladders/toe boards/handrails
2.5	Portable Ladders
2.6	Any other: Principal Contractor to specify:
3	Barricading: Supply & install, including removal upon completion to ensure full compliance to legislation
3.1	Rigid type barricading
3.2	Temporary fence barricading along perimeter of excavated area
3.3	Danger tape pre-warning tape
3.4	Any other: Principal Contractor to specify:
4	Related Training
4.1	First Aid Training
4.2	Health and Safety Representative training

4.3	Emergency Rescue training (Height)
4.4	Hazard Identification Training
4.5	Training of Personnel working at heights
4.6	Construction Plant Training
4.7	Legal Liability (OHSACT) Training
4.8	COID ACT Training
4.9	Scaffold Erector and Inspector Training
4.10	Any other: Contractor to specify: Working at elevated
5	Occupational Health and Safety Administration
5.1	Develop of a Site-Specific Health and Safety Plan and Hazard and Risk Assessment by Competent person.
5.2	Develop of Fall Protection and Rescue Plan by a Competent Fall Protection Plan Developer.
5.3	Competent Occupational Health and Safety Officer/Consultant.
5.4	COVID-19 Requirements
6	Medical Surveillance
6.1	Medical Certificates of fitness for all Employees by an Occupational Health Practitioner.
6.2	Medical Certificates of fitness for all EPWP Employees by an Occupational Practitioner during the duration of the Construction Project.
7	Facilities and Equipment
7.1	Sanitary facility for each sex and for every 30 workers.
7.2	Changing facilities for each sex.
7.3	Sheltered eating areas
7.4	First aid boxes
7.5	Fire extinguishers
7.6	Waste bins
8	Safety Signage
8.1	Sufficient and adequate safety signage on constructions site and at all flammable stores.

ANNEXURE E

The Occupational health and Safety File must consist out of the following documentation:

INDEX

1	Appointment Letter from Polokwane Municipality.
2	Notification of Construction work.
3	Letter of Good standing - COID
4	Copy of Public Liability Insurance Policy and UIF Registration
5	Health and Safety Specifications
6	Scope of Work
7	Tool and Machinery list
8	Method Statement of all work that will be conducted.
9	Risk Assessment Guide / Procedure
10	Baseline Risk Assessments
11	Safe Work Procedures for all Risks
12	Health and Safety Information from Designer
13	Medical Certificates|Copy of ID'S and Personal Information
14	All Health and Safety Related Policies
15	Section 37.2 Agreements
16	Induction Training Information
17	Site Specific Emergency numbers and Emergency Plan
18	Site Specific Fall Protection and Rescue Plan
19	Site Specific Health and Safety Plan
20	Incident / Accident Management Control
21	Traffic Management Plan
22	Contractor Control Procedures
23	Environmental Management
24	Hazardous Chemical Substance Register and MSDS
25	Example of Monthly Health and Safety Report
26	COVID - 19 Management Plan
27	Health and Safety Organogram and Occupational Health and Safety (Construction) Appointments - With Competencies
28	Certificates for all lifting equipment
29	Sample of all registers that will be used on site.
30	Copy of Construction Building Plans (A4)
31	Copy of the Occupational Health and Safety Act and Construction Regulations 2014

ANNEXURE F

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

(Regulation 4 of the Construction Regulations.

2014)NOTIFICATION OF CONSTRUCTION WORK

1. (a) Name and postal address of principal contractor:

(b) Name and tel. No of principal contractor's contact person:

2. Principal contractor's compensation registration number:

3. (a) Name and postal address of Polokwane Municipality:

(b) Name and tel. No of Polokwane Municipality's contact person or agent:

4. (a) Name and postal address of designer(s) for the project:

(b) Name and tel. No of designer(s) contact person:

5. Name and telephone number of principal contractor's construction supervisor on site appointed in terms of regulation 8(1).

6. Names of principal contractor's sub-ordinate supervisors on site appointed in terms of regulation 8(2).

7. Exact physical address of the construction site or site office:

8. Nature of the construction work:

9. Expected commencement date: _____

10. Expected completion date: _____

11. Estimated maximum number of persons on the construction site.

Total: _____ Male: _____ Female: _____

12. Planned number of contractors on the construction site accountable to principal Contractor: _____

13. Name(s) of contractors already selected.

Principal Contractor

Date

Polokwane Municipality's Agent (where applicable)

Date

Polokwane Municipality

Date

➤ THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.



Copies:

1. Original to **Department of Labour**

PART C4: SITE INFORMATION

C4.1: LOCALITY PLAN

C4.2: BID DRAWING

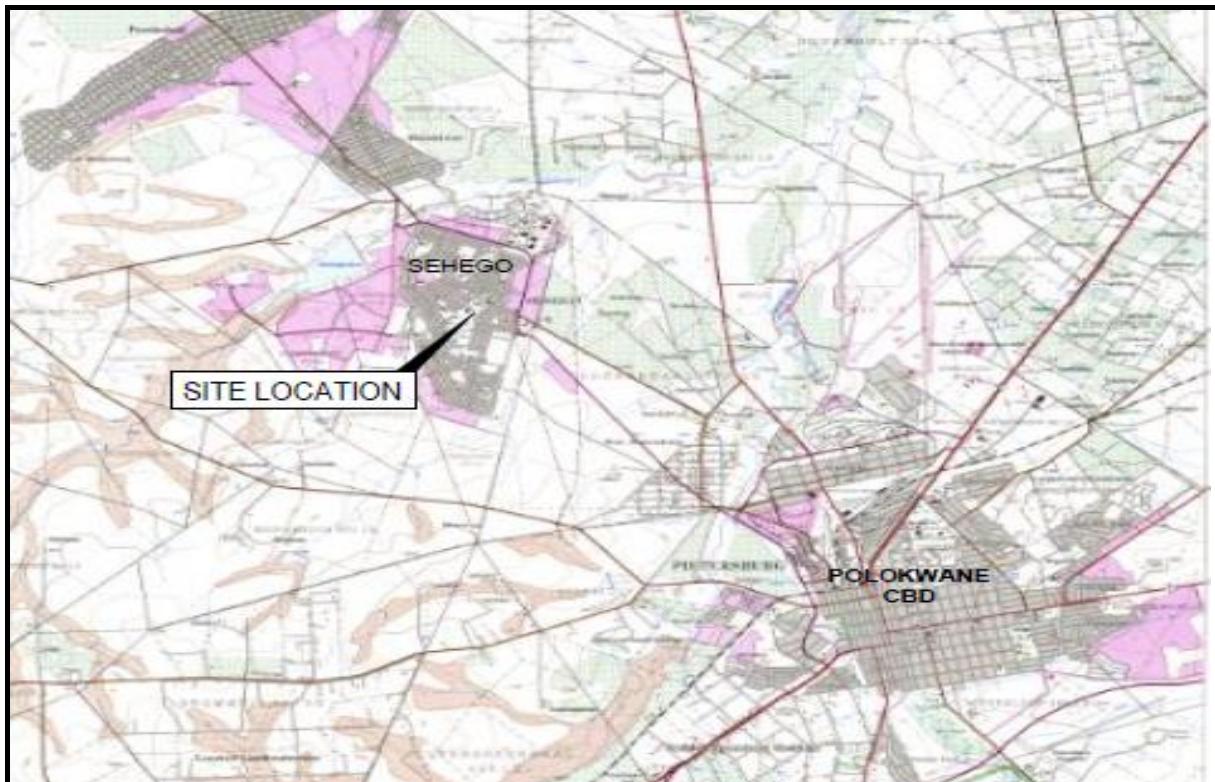
POLOKWANE MUNICIPALITY**BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2:****C4: SITE INFORMATION****C4.1: LOCALITY PLAN**

Figure 4-1: Locality Map

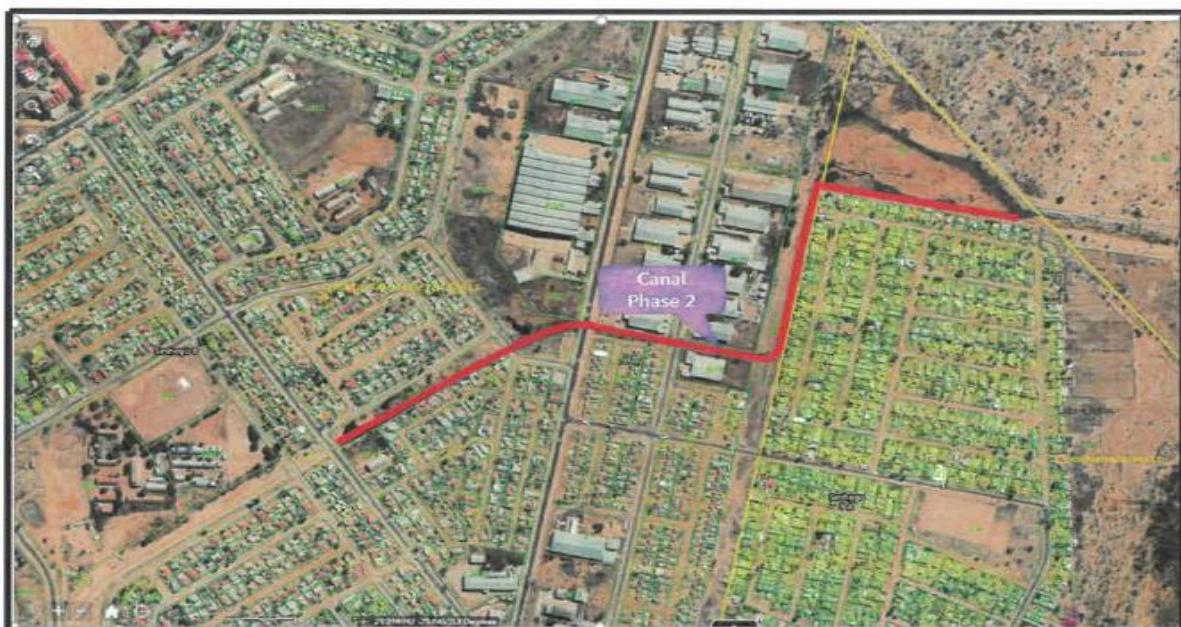


Figure 4-2: Site Location Map

POLOKWANE MUNICIPALITY

BID NUMBER PM 11/2021: STORMWATER CANAL PHASE 2:

C4.2 BID DRAWING

LIST OF DRAWINGS	
PROJECT INFORMATION:	
NT05-20-1105-500-1	COVER
GENERAL:	
NT05-20-1105-501-1	SITE LOCALITY PLAN & DRAWING LIST
LAYOUT PLANS:	
NT05-20-1105-502-1	NMT - LAYOUT PLAN – SHEET 1 OF 2
NT05-20-1105-502-2	NMT - LAYOUT PLAN – SHEET 2 OF 2
NT05-20-1105-502-3	STORMWATER - LAYOUT PLAN – SHEET 1 OF 2
NT05-20-1105-502-4	STORMWATER - LAYOUT PLAN – SHEET 2 OF 2
LONGITUDINAL SECTION	
NT05-20-1105-504-1	NMT - LONGITUDINAL SECTION
NT05-20-1105-504-2	STORMWATER - LONGITUDINAL SECTION – SHEET 1 OF 4
NT05-20-1105-504-3	STORMWATER - LONGITUDINAL SECTION – SHEET 2 OF 4
NT05-20-1105-504-4	STORMWATER - LONGITUDINAL SECTION – SHEET 3 OF 4
NT05-20-1105-504-5	STORMWATER - LONGITUDINAL SECTION – SHEET 4 OF 4
TYPICAL CROSS SECTIONS:	
NT05-20-1105-505-1	TYPICAL CROSS SECTION – SHEET 1 OF 2
NT05-20-1105-505-2	TYPICAL CROSS SECTION – SHEET 2 OF 2
NMT DETAIL CROSS SECTIONS	
NT05-20-1105-518-1	NMT DETAIL CROSS SECTIONS – SHEET 1 OF 2
NT05-20-1105-518-2	NMT DETAIL CROSS SECTIONS – SHEET 2 OF 2
STANDARD DETAILS	
NT05-20-1105-520-1	TYPICAL RAISED PEDESTRIAN CROSSING
NT05-20-1105-520-2	STORMWATER FIELD INLET
NT05-20-1105-520-3	KERB INLET DETAILS
NT05-20-1105-520-4	TYPICAL CROSS CUTDETAILS
ELECTRICAL	
NT/04-20-1103-440-01	LIGHTING LAYOUT
NT/04-20-1103-400-01	SINGLE LINE DIAGRAM

C4.2.1 TENDER DRAWING

The drawings that form part of the tender document are issued for tender purposes only. Only figured dimensions may be used and drawings may not be scaled unless so instructed by the engineer. The engineer will supply all figured dimensions omitted from the drawings.