

**WATER AND SANITATION DEPARTMENT
INFRASTRUCTURE PLANNING AND
IMPLEMENTATION DIVISION**



TENDER REFERENCE: WS 19 2023/24

**TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR
CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION
AND EXTENSION OF WATER NETWORK PIPELINES IN THE CITY OF
TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND
WHEN REQUIRED**

VOLUME 1

A Tender for category 7CE or higher CIDB registered contractors

ISSUED BY:	PREPARED BY:
The Divisional Head <u>Supply Chain Management</u> Tshwane House 320 Madiba Street Pretoria 0001 Tel: (012) 358 0343	The Group Head <u>WATER AND SANITATION</u> PO Box 1022 PRETORIA 0001 Tel: 012 345-4101/3773

Registered Name of Tenderer:	
Trading Name of Tenderer:	
Registration No. of Entity:	
Postal address of Tenderer:	
Contact Person:	CoT Vendor No:
Tel. No:	E-Mail Address:
Cell No:	Fax No:
CIDB CRS Number(s) :	

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PORTION 1: TENDER

PART T1: TENDER PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

WS 19 2023/24

**CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT**

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENSION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

Tenders are hereby invited for the above services.

Tenderers should have a CIDB contractor grading designation of **7CE** or higher.

Tenders will be received until **10:00 on the 23 February 2024**. Tenders will be received on the closing dates and times shown, must be enclosed in sealed envelopes, bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to:-
Tenders are hereby invited for the above work.

Tenders will be evaluated on the basis of awarding points for the **90/10 Preference** Point System will be applied to this tender.

A **COMPULSORY CLARIFICATION MEETING** with a representative of the Employer will take place at the boardroom of the Water and Sanitation Department, Room A701, Capitol Towers North, 225 Madiba Street, Pretoria, 0001 **on the 05th February 2024 at 10h00.**

The lowest or any tender will not necessarily be accepted, and the Municipality reserves the right to accept any tender as a whole or in part or no tender.

Tenders must remain valid for a period of **90 days** after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Municipality.

The closing time for receipt of tenders is **10h00 on the 23 February 2024**. Tenders will be received on the closing date and time shown, must be enclosed in sealed envelopes bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to the Executive Director, SUPPLY CHAIN MANAGEMENT, PRETORIA, 0001 and must be submitted in the tender box situated at **Tshwane House, 320 Madiba Street, Pretoria, 0002**. Tenders will be opened at the latter address at the time indicated.

Only bidders registered on the central supplier database (CSD) and with a CSD number will be considered for this tender, as this is a requirement from the National Treasury.

“Note: Bidders are required to submit electronic copies of the bid either by memory stick/USB flash drive/CD/DVD together with the hard copy of the Bid/Proposals”.

ENQUIRIES:	Employers Agent:	Mr. Timothy Mothiba
	Tel (Office):	012 358 0147
	E-Mail:	TimothyMot@tshwane.gov.za

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in **Annexure C of Standard for Uniformity in Engineering and Construction Works Contracts (Board Notice 423 Government Gazette No 42622 of 8 August 2019)**, bound into Section T1.2

The Standard Conditions of Tender makes several references to the Tender Data. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender to which it mainly applies.

CLAUSE NUMBER	TENDER DATA
C.1.1 Actions	The Employer is City of Tshwane Metropolitan Municipality
C.1.2 Tender Documents	<p><u>Volume 1: Tender Document</u></p> <p>THE TENDER</p> <p>Part T1: Tendering Procedures</p> <p>T1.1 – Tender Notice and Invitation to Tender</p> <p>T1.2 – Tender data</p> <p>T1.2 – Standard Conditions of Tender</p> <p>Part T2: Returnable documents</p> <p>T2.1 – List of returnable documents</p> <p>T2.2 – Returnable schedules</p> <p>THE CONTRACT</p> <p>Part C1: Agreements and contract data</p> <p>C1.1 – Form of offer and acceptance</p> <p>C1.2 – Contract data</p> <p>Part C3: Scope of work</p> <p>C3 – Scope of work</p> <p><u>Volume 2: Standard Drawings</u></p> <p>The standard Drawings as referred to in Part C3, Section C3.2 and the Bill of Quantities will form part of this contract. Request for drawings maybe emailed to the following: WS_WayleaveAPPL@Tshwane.gov.za</p>
C.1.3 Interpretation C.1.3.4	<p>Add the following new clause:</p> <p><i>The tender documents have been drafted in English. The contract arising from the invitation to tender shall be interpreted and construed in English</i></p>
C.1.4 Communication (Employer's Agent(s))	<p>Agent: Mr. Timothy Mothiba</p> <p>Address: 225 Madiba Street, Pretoria, 0001</p> <p>Tel: 012 358 0147</p> <p>E-Mail: TimothyMot@tshwane.gov.za</p>
C.2.1 Eligibility	<p>It is a mandatory requirement that tenderers must submit the following:</p> <p>The following are considered mandatory criteria and failure to submit the required documentation will render the tender non-complaint:</p>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA																			
	<table border="1"> <thead> <tr> <th>Mandatory criteria</th> <th>Supporting evidence</th> </tr> </thead> <tbody> <tr> <td>CIDB Grading of 7CE or higher.</td> <td>Valid CIDB grading certificate</td> </tr> <tr> <td>Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)</td> <td>Valid Certified Letter of Good Standing</td> </tr> <tr> <td>Performance Guarantee</td> <td>Letter of intent – performance guarantee</td> </tr> <tr> <td>Contracts Manager - Minimum of B-Eng or B- Tech Degree Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Civil Site Agent - Minimum of Diploma Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Site foreman – Minimum of Diploma Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Civil Supervisor/ Team Leader / Artisan – Trade Test Certificate</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Health and Safety Officer must be registered with the South African Council for Project and Construction Management Professions (SACPCMP) as a Construction Health and Safety Officer (CHSO).</td> <td>Certified copy of SACPCMP Registration Certificate</td> </tr> </tbody> </table>	Mandatory criteria	Supporting evidence	CIDB Grading of 7CE or higher.	Valid CIDB grading certificate	Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)	Valid Certified Letter of Good Standing	Performance Guarantee	Letter of intent – performance guarantee	Contracts Manager - Minimum of B-Eng or B- Tech Degree Civil Engineering	Certified copy of qualification	Civil Site Agent - Minimum of Diploma Civil Engineering	Certified copy of qualification	Site foreman – Minimum of Diploma Civil Engineering	Certified copy of qualification	Civil Supervisor/ Team Leader / Artisan – Trade Test Certificate	Certified copy of qualification	Health and Safety Officer must be registered with the South African Council for Project and Construction Management Professions (SACPCMP) as a Construction Health and Safety Officer (CHSO).	Certified copy of SACPCMP Registration Certificate	
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	<p>Joint Ventures are eligible to submit tenders provided that:</p> <ol style="list-style-type: none"> every member of a joint venture is registered with the CIDB within 10 days of the closing date of tenders; the lead partner has a contractor grading designation in the 6CE or higher class of construction work; and <p>The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor designation in accordance with the sum tendered for a 7CE or higher class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations.</p>																			
C.2.2	Cost of Tendering	The employer will not compensate the tenderer for any costs incurred in attending interviews or making any submissions in the office of the employer.																		
C.2.5	Reference Documents	<p>Add the following:</p> <p>Unless specified otherwise in this document, the following standards and conditions of contract will be applicable under this Contract:</p> <ul style="list-style-type: none"> The document “Standard Specifications for Municipal Civil Engineering Works”, Third Edition, 2005 issued by the Divisional Head: Roads and Stormwater of the City of Tshwane. This document is obtainable free of charge on the website www.tshwane.gov.za. The latest print version as current at 30 days before close of tenders of the document 																		

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<p><i>“General Conditions of Contract for Construction Works 3rd Edition, 2015”</i> including corrections thereto as current at 30 days before close of tenders, as published by the <i>South African Institution of Civil Engineering</i>.</p> <p>The document may be purchased in hard copy from the <i>South African Institution of Civil Engineering</i> or may be purchased online as an electronic reference document in PDF format by following the relevant links on www.saice.org.za. The corrections may be downloaded from the SAICE website www.saice.org.za.</p>
C.2.7 Clarification meeting	<p>The arrangements for a compulsory clarification meeting are as stated in the tender notice and invitation to tender.</p> <p>Confirmation of attendance will be recorded on site in the attendance register to be signed by all tenderers. Addenda will be issued to, and tenders received from those tendering entities appearing on the attendance register.</p> <p>Tender documents will not be made available at the clarification meeting</p>
C.2.8 Seek clarification	<p>Replace the clause with the following:</p> <p><i>Request clarification of the tender documents, if necessary, by notifying the employer at least <u>7 (seven) working days</u> before the closing time stated in the tender data.</i></p> <p>The document is downloadable on the National Treasury website (www.etenders.gov.za) and City of Tshwane website (www.tshwane.gov.za)</p>
C.2.9 Insurance	<p>Add the following to the clause</p> <p>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.</p>
C.2.12 Alternative offers	<p>No alternative tender offers will be considered.</p>
C.2.13 Submitting a tender offer	<ul style="list-style-type: none"> The tender offer shall be completed in non-erasable black ink Any entry made by the tenderer in the document which the tenderer desires to change, shall not be erased or painted out. A line shall be drawn through the incorrect entry and the correct entry shall be written above in non-erasable black ink and the full signature of the tenderer shall be placed next to the correction. <p>Parts of each tender offer communicated on paper shall be submitted as an original tender Document</p> <p>Each tenderer is required to submit the fully completed and signed tender submission document, attached to the original tender submission documents, adequately identifiable as belonging to the tenderer.</p>
C.2.13.3	<p>Add the following to the clause</p> <p><i>Only authorised signatories may sign the original and all copies of the tender offer where required.</i></p> <p><i>In the case of a ONE-PERSON CONCERN submitting a tender, this shall be clearly stated.</i></p> <p><i>In the case of a COMPANY submitting a tender, include a copy of a resolution by its board of directors authorising a director or other official of the company to sign the documents on behalf of the company.</i></p>

CLAUSE NUMBER	TENDER DATA
	<p><i>In the case of a CLOSE CORPORATION submitting a tender, include a copy of a resolution by its members authorising a member or other official of the corporation to sign the documents on each member's behalf.</i></p> <p><i>In the case of a PARTNERSHIP submitting a tender, all the partners shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case proof of such authorisation shall be included in the Tender.</i></p> <p><i>In the case of a JOINT VENTURE/CONSORTIUM submitting a tender, include a resolution of each company of the joint venture together with a resolution by its members authorising a member of the joint venture to sign the documents on behalf of the joint venture.</i></p> <p><u>Accept that failure to submit proof of authorisation to sign the tender shall result in the tender offer being regarded as non-responsive.</u></p>
	<p>Tender Reference: WS 19 2023/24</p> <p>Tender Description: The appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Areas A, B, and C): Three (3) Year Period, as and when required</p> <p>Each tender shall be enclosed in a sealed envelope, bearing the correct identification details and shall be submitted (HAND DELIVERED) at:</p> <p style="padding-left: 40px;">Supply Chain Management Tshwane House 320 Madiba Street Pretoria CBD 0002</p> <p>Please note that the tender box is open 24 hours. Please ensure that all required compliance documents are included upon submission as no additional documents will be requested from bidders after closing.</p>
C.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed offers will <u>not</u> be accepted.
C.2.13.10	<p>Add the following sub- clause C.2.13.10:</p> <p><i>Accept that all conditions, which are printed or written upon any stationery used by the Tenderer for the purpose of or in connection with the submission of a tender offer for this Contract, which are in conflict with the conditions laid down in this document shall be waived, renounced and abandoned.</i></p>
C.2.14 Information and data to be completed in all respects	<p>Add the following to the clause:</p> <p><i>The Tenderer is required to enter information in the following sections of the document:</i></p> <p><i>Section T2 : Returnable Schedules</i> <i>Section C1 : Form of Offer and Acceptance</i> <i>Section C1 : Contract Data</i> <i>Section C3 : Price Schedule</i></p> <p><i>The above sections shall be signed by the Tenderer (and witnesses where required). Individual pages should only be initialled by the successful Tenderer and by the witnesses after acceptance by the Employer of the Tender Offer.</i></p>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<p><i>The Tenderer shall complete and sign the Form of Offer prior to the submission of a Tender Offer.</i></p> <p><i>The Schedule of Deviations (if applicable) shall be signed by the successful Tenderer after acceptance by the Employer of the Tender Offer.</i></p> <p><i>Accept that failure on the part of the Tenderer to submit any one of the Returnable Documents listed in Part T2 – Returnable Documents within the period stipulated, shall be just cause for the Employer to consider the tender offer as being regarded as non-responsive.</i></p> <p><i>Accept that the Employer shall in the evaluation of tender offers take due account of the Tenderer’s past performance in the execution of similar engineering works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in Part T2 – Returnable Documents.</i></p>
C.2.15 Closing time	The closing time for submission of tender offers is stated in the tender notice and invitation to tender.
C.2.16 Tender offer validity	<p>The tender offer validity period is 90 days.</p> <p>Add the following new clause:</p> <p><i>If the tender validity period expires on a Saturday, Sunday or public holiday, the tender offer shall remain valid and open for acceptance until closure of business on the following working day.</i></p>
C.2.16.5	<p>Add the following new clause:</p> <p><i>Accept that should the Tenderer unilaterally withdraw his tender during the tender validity period, the Employer shall, without prejudice to any other rights he may have, be entitled to accept any less favourable tender for the Works from those received, or to call for fresh tenders, or to otherwise arrange for execution of the Works, and the Tenderer shall pay on demand any additional expense incurred by the Employer on account of the adoption of the said courses, as well as either the difference in cost between the tender withdrawn (as corrected in terms of clause 3.9 of the Conditions of Tender) and any less favourable tender accepted by the Employer, or the difference between the tender withdrawn (as corrected) and the cost of execution of the Works by the Employer as well as any other amounts the Employer may have to pay to have the Works completed.</i></p>
C.2.16.6	
C.2.18 Provide other material	The tenderer shall, when requested by the employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
C.2.19 Inspections, tests and analysis	<p>Add the following at the end of the clause:</p> <p><i>....or upon written request.</i></p>
C.2.20 Submit securities, bonds, policies, etc.	The tenderer is required to submit with his tender proof of his Professional Indemnity Insurance.
C.2.23 Certificates	Refer to Part T2 of this procurement document for a list of the documents that are to be returned with the tender.

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
<p>C.2.24 <i>Canvassing and obtaining of additional information by tenderers</i></p>	<p><i>The Tenderer shall not make any attempt either directly or indirectly to canvass any of the Employer's officials or the Project Coordinator or Deputy Directors (Regional Project Managers)/ Employer's Agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon.</i></p> <p><i>The Tenderer shall not make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders.</i></p>
<p>C.2.25 <i>Prohibitions on awards to persons in service of the state</i></p>	<p>Add the following new clause</p> <p><i>The Employer is prohibited to award a tender to a person -</i></p> <ol style="list-style-type: none"> <i>a) who is in the service of the state; or</i> <i>b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or</i> <i>c) a person who is an advisor or consultant contracted with the municipality or municipal entity.</i> <p>In the service of the state means to be -</p> <ol style="list-style-type: none"> <i>a) a member of:-</i> <ul style="list-style-type: none"> <i>• any municipal council;</i> <i>• any provincial legislature; or</i> <i>• the National Assembly or the National Council of Provinces;</i> <i>b) a member of the board of directors of any municipal entity;</i> <i>c) an official of any municipality or municipal entity;</i> <i>d) an employee of any national or provincial department;</i> <i>e) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);</i> <i>f) a member of the accounting authority of any national or provincial public entity; or</i> <i>g) an employee of Parliament or a provincial legislature.</i> <p>In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.</p>
<p>C.2.26 <i>Awards to close family members of persons in the service of the state</i></p>	<p>Add the following new clause</p> <p><i>Accept that the notes to the Employer's annual financial statements must disclose particulars of any award of more than R2000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause F2.25), or has been in the service of the state in the previous twelve months, including -</i></p> <ol style="list-style-type: none"> <i>a) the name of that person;</i> <i>b) the capacity in which that person is in the service of the state; and</i> <i>c) the amount of the award.</i> <p>In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.</p>
<p>C.2.27 <i>Vendor registration</i></p>	<p>Add the following new clause</p> <p><i>The contractor will be required to register as a supplier/ service provider on the City of Tshwane's vendor register before any payment can be done.</i></p> <p><i>If the tenderer is already registered as a vendor, it is required to record the vendor number in space provided on the cover page of this Tender document.</i></p>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<p><i>Vendor registration documents are available from the Procurement Advice Centre or can be downloaded from:</i> https://www.tshwane.gov.za/sites/business/RegistrationofSuppliers/pages/registration-of-suppliers.aspx</p> <p><i>All parties of a joint venture or consortium submitting a tender shall comply with the requirements of this clause.</i></p>
<p>C.2.28 Tax</p>	<p>Add the following new clause</p> <p>National Treasury SCM Instruction no. 7 of 2017/18 clause 4 application during SCM Processes state that:</p> <p><i>The designated official(s) must verify the tenderer’s tax compliance status prior to the finalisation of the award of the tender or price quotation.</i></p> <p><i>Where the recommended tenderer is not tax compliant, the tenderer should be notified of their non-compliant status and the tenderer must be requested to submit to the municipality or municipal entity, within 7 working days, written proof from South African Revenue Services of their tax compliance status or proof from SARS that they have made an arrangement to meet their outstanding tax obligations. The proof of tax compliance status submitted by the tenderer to the municipality or municipal entity must be verified via the Central Supplier Database or eFiling</i></p> <p><i>Accept that the tenderer will be rejected if such tenderer fails to provide proof of tax compliance status in terms of clause 4.2 of National Treasury SCM Instruction no. 7 of 2017/18</i></p>
<p>C.3.1 Respond to requests from the tenderer</p> <p>C.3.1.1</p>	<p>The employer will respond to requests for clarification up to 7 (seven) working days before the tender closing time.</p>
<p>C.3.4 Opening of tender submissions</p>	<p>Upon request tenders will be opened immediately after the closing time for tenders. Bidders are also requested to refer to the City’s website where their closing register will be published.</p>
<p>C.3.11 Evaluation of tender offers</p>	<p>The tender will be evaluated in 4 stages namely:</p> <p>Stage 1: Administrative compliance Stage 2: Mandatory requirements Stage 3: Functionality Stage 4: Preference Points System</p>
<p>C.3.11.1 General 1</p>	<p>Method 2 will be used to evaluate all responsive tender offers in terms of Clause C.3.11.2 of the Standard Conditions of Tender</p> <p>Add the following new clause:</p> <p>1. STAGES OF EVALUATION</p> <p>This bid will be evaluated in four evaluation stages namely:</p>

CLAUSE NUMBER	TENDER DATA															
	<ul style="list-style-type: none"> • Stage 1: Administrative compliance • Stage 2: Mandatory requirements • Stage 3: Functionality Criteria • Stage 4: Preference Points System <p>1.1 ADMINISTRATIVE COMPLIANCE</p> <p>All the bids will be evaluated against the administrative responsiveness requirements as set out in the list of returnable documents.</p> <p>A compulsory site meeting and briefing session to be held:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Compulsory Returnable Documentation (Submission of these are compulsory)</th> <th style="text-align: center;">Submitted (YES or NO)</th> <th style="text-align: center;">Checklist (Guide for Bidder and the Bid Evaluation Committee)</th> </tr> </thead> <tbody> <tr> <td>a) To enable The City to verify the bidder’s tax compliance status, the bidder must provide; <ul style="list-style-type: none"> • A copy of their Tax Clearance Certificate (TCS); or • Indicate their tax compliance status PIN. </td> <td></td> <td>TCS must be in the same business name as the bidding company. TCS must be valid. Tax status must be compliant before the award.</td> </tr> <tr> <td>b) A copy of their Central Supplier Database (CSD) registration; or indicate their Master Registration Number / CSD Number;</td> <td></td> <td>CSD must be valid. Tax status must be compliant before the award.</td> </tr> <tr> <td>c) Confirmation that the bidding company’s rates and taxes are up to date: Original or copy of Municipal Account Statement of the Bidder (bidding company) not older than 3 months and account must not be in arrears for more than ninety (90) days; or ,signed lease agreement or In case of bidders located in informal settlement, rural areas or areas where they are not required to pay Rates and Taxes a letter from the local councillor confirming they are operating in that area</td> <td></td> <td>Was a Municipal Account Statement or landlord letter provided for the bidding company? The name and / or addresses of the bidder’s statement correspond with CIPC document, Address on CSD or Company profile? Are all payment(s) up to date (i.e. not in arrears for more than 90 days?</td> </tr> <tr> <td>d) In addition to the above, confirmation that all the bidding company’s owners / members / directors / major shareholders rates and taxes are up to date: • Original or copy of Municipal Account Statement of all the South African based owners / members / directors / major shareholders not older than 3 months and the account/s may not be in arrears for more than ninety (90) days; or a signed lease agreement of owners / members / directors / major shareholders or In case of bidders located in informal settlement, rural areas or areas where they are not required to pay Rates and Taxes a</td> <td></td> <td>Was a Municipal Account Statement or landlord letter provided for the bidding company? 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Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA		
	<p>letter from the local councillor confirming they are residing in that area</p>		
	<p>e) Duly Signed and completed MBD forms (MBD 1, 4, 5, 8 and 9) The person signing the bid documentation must be authorized to sign on behalf of the bidder. Where the signatory is not a Director / Member / Owner / Shareholder of the company, an official letter of authorization or delegation of authority should be submitted with the bid document.</p> <p>NB: Bidders must ensure that the directors, trustees, managers, principal shareholders, or stakeholders of this company, declare any interest in any other related companies or business, whether or not they are bidding for this contract. <u>See Question 3.14 of MBD 4. Failure to declare interest will result in a disqualification</u></p>		<p>All documents fully completed (i.e. no blank spaces)? All documents fully signed? Signature authorized (any director / member / trustee as indicated on the CIPC document, alternatively a delegation of authority would be required? Documents completed in black ink (i.e. no "Tippex" corrections, no pencil, no other colour ink, or non-submission of the above, will be considered)?</p>
	<p>f) Financial Statements for the most recent three (3) years or financial statements from date of existence for companies less than three years old.</p> <p>NB: The bidder must submit signed audited annual financial statements for the most recent three years, or if established for a shorter period, submit audited annual financial statements from date of establishment.</p> <p>If the bidder is not required by law to prepare signed annual financial statements for auditing purposes, then the bidder must submit proof that the bidder is not required by law to prepare audited financial statements.</p>		<p>Applicable for tenders above R10m in conjunction with MBD 5)</p> <p>Are Audited financial statements provided (Audited financials must be signed by auditor)? Or proof that the bidder is not required by law to prepare audited financial statements.</p>
	<p>g) Joint Ventures (JV) – (Only applicable when the bidder tenders as a joint venture) Where the bidder bids as a joint venture (JV), the required or relevant documents as per (a) to (f) above must be provided for all JV parties. In addition to the above the bidder must submit a Joint Venture (JV) agreement signed by the relevant parties.</p> <p>NB: It is a condition of this bid that the successful bidder will continue with the same Joint Venture (JV) for the duration of the contract unless prior approval is obtained from the City.</p>		<p>If applicable. JV agreement provided? JV agreement complete and relevant? Agreement signed by all parties? All required documents as per (i.e. a to f) must be provided for all partners of the JV.</p>
	<p>h) Bidder attended a compulsory briefing session where applicable</p>		<p>A compulsory briefing register must be signed by the bidder.</p>

CLAUSE NUMBER	TENDER DATA																			
		<p>Bidders will be disqualified should they fail to attend compulsory briefing session</p>																		
	<p>i) Pricing schedule (All items must be quoted for in pricing schedule and if not, all items are quoted the bidder will be disqualified). Unless the tender is awarded per item or per section where the bidder only quoted the items or sections, they are interested in.</p>	<p>Incomplete pricing schedule results in totals being incomparable. Bidder must be disqualified.</p> <p>Bidder will be disqualified should they make corrections on the price schedule without attaching a signature thereto.</p> <p>Bidder will be disqualified should they use tippex/ correction ink, on the price schedule.</p>																		
<p>1.2 MANDATORY REQUIREMENTS</p> <p>It is expected that the bidder will deploy experienced key personnel that have in the past tenant installation/fit-out works, and this team should possess the relevant skills adequate for performing the tasks set out in this specification document.</p> <p>The following information must be provided:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Mandatory criteria</th> <th style="text-align: left;">Supporting evidence</th> </tr> </thead> <tbody> <tr> <td>CIDB Grading of 7CE or higher.</td> <td>Valid CIDB grading certificate</td> </tr> <tr> <td>Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)</td> <td>Valid Certified Letter of Good Standing</td> </tr> <tr> <td>Performance Guarantee</td> <td>Letter of intent – performance guarantee</td> </tr> <tr> <td>Contracts Manager - Minimum of B-Eng or B- Tech Degree Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Civil Site Agent - Minimum of Diploma Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Site foreman – Minimum of Diploma Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Civil Supervisor/ Team Leader / Artisan – Trade Test Certificate in Civil Engineering</td> <td>Certified copy of qualification</td> </tr> <tr> <td>Health and Safety Officer must be registered with the South African Council for Project and Construction Management Professions</td> <td>Certified copy of SACPCMP Registration Certificate</td> </tr> </tbody> </table>			Mandatory criteria	Supporting evidence	CIDB Grading of 7CE or higher.	Valid CIDB grading certificate	Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)	Valid Certified Letter of Good Standing	Performance Guarantee	Letter of intent – performance guarantee	Contracts Manager - Minimum of B-Eng or B- Tech Degree Civil Engineering	Certified copy of qualification	Civil Site Agent - Minimum of Diploma Civil Engineering	Certified copy of qualification	Site foreman – Minimum of Diploma Civil Engineering	Certified copy of qualification	Civil Supervisor/ Team Leader / Artisan – Trade Test Certificate in Civil Engineering	Certified copy of qualification	Health and Safety Officer must be registered with the South African Council for Project and Construction Management Professions	Certified copy of SACPCMP Registration Certificate
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CLAUSE NUMBER	TENDER DATA				
	(SACPCMP) as a Construction Health and Safety Officer (CHSO).				
	<p style="text-align: center;">1.3 FUNCTIONALITY CRITERIA</p> <p>Only tenderers who obtain a minimum of 70 points in respect of the following criteria will be considered for the next stage of evaluation. Bidders that do not achieve a minimum 70 points out of 100 points will not be evaluated further.</p>				
	CRITERIA	SUB-CRITERIA	SCALE	WEIGHT	HIGHEST POSSIBLE SCORE
	<p>Organisational Experience</p> <p>Score will be based on successfully executed and completed projects of similar scope of work (water pipe replacement projects)</p> <p>Contractor to submit all two below per project as proof:</p> <ul style="list-style-type: none"> • Letter of appointment • Completion Certificate showing value of projects completed. 	3 Reference letters and above	5	8	40
		2 Reference letters	3		
		1 Reference letter	2		
	<p>Key Staff's experience that is relevant to the scope of work (water pipe replacement projects)</p> <p>Key Staff as Indicated Below:</p> <p>Contract Manager</p> <ul style="list-style-type: none"> • Attach copies of both proof of qualification and detailed CV indicating years of experience are compulsory. 	5+ years	5	6	30
		>2 – <5 years	3		
		<2 years	1		
	<p>Key Staff's experience that is relevant to the scope of work (water pipe replacement projects)</p> <p>Key Staff as Indicated Below:</p> <p>Foreman / Supervisor (with experience in Civil Engineering).</p>	5+ years	5	4	20
		>2 – <5 years	3		
		<2 years	1		

CLAUSE NUMBER	TENDER DATA			
	Attach copies of both proof of qualification and detailed CV indicating years of experience are compulsory.			
	Key Staff's experience that is relevant to the scope of work (water pipe replacement projects) Key Staff as Indicated Below: Supervisor/ Team Leader / Artisan (with trade certificate in Civil Engineering) Attach copies of both proof of qualification and detailed CV indicating years of experience are compulsory.	5+ years	5	2
		>2 – <5 years	3	
		<2 years	1	
				10
	Total			100
1.4 PREFERENCE POINT SYSTEM				
The preferential point system used will be the 90/10 points system in terms of the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000) Regulations 2022				
<ul style="list-style-type: none"> • 90 points for price • 10 points for specific goals 				
	Specific goals	90/10 preference point system	Proof of specific goals to be submitted	
	BB-BEE score of companies <ul style="list-style-type: none"> • Level 1 • Level 2 • Level 3 • Level 4 • Level 5 • Level 6 • Level 7 • Level 8 • Non-compliant 	<ul style="list-style-type: none"> • 4 Points • 3.5 Points • 3 Points • 2.5 Points • 2 Points • 1.5 Points • 1 Point • 0.5 Points 0 Points 	Valid Certified copy of BBBEE certificate Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate.	
	EME and/ or QSE	1 Point	Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate	
	At least 51% of Women-owned companies	1 Point	Certified copy of Identity Document/s and proof of	

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA		
			ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
	At least 51% owned companies by People with disability	1 Point	Medical Certificate with doctor's details (Practice Number, Physical Address, and contact numbers) and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
	At least 51% owned companies by Youth	1 Point	Certified copy of Identity Document/s and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
	Local Economic Participation <ul style="list-style-type: none"> • City of Tshwane • Gauteng • National 	2 Points 1 Point 1 Point	Municipal Account statement/Lease agreement.
C.3.13 Acceptance of Tender Offer	Tender offers will only be accepted if: <ol style="list-style-type: none"> a.) the tenderer has complied in full with the all eligibility criteria; b.) the tenderer is able to provide proof of tax compliance status in terms of clause 4.2 of National Treasury SCM Instruction no. 7 of 2017/18; c.) the tenderer is not in arrears for more than 3 months with municipal rates and taxes and municipal service charges; d.) the tenderer or any of its directors 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; e.) the tenderer has not: <ol style="list-style-type: none"> i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect. f.) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; g.) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer. 		
C.3.17 Copies of Contract	One signed copy of contract shall be provided by the Employer to the successful Tenderer.		

T1.3 STANDARD CONDITIONS OF TENDER

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Part T1: Tender Procedures

C.1 General

C.1.1 Actions

C.1.1.1 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 C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

C.1.1.2 The Employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the Employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: 1) *A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.*

2) *Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.*

C.1.1.3 The Employer shall not seek, and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

C.1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

C.1.3 Interpretation

C.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.

C.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.

C.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

a) **conflict of interest** means any situation which:

- i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
- ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
- iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.

b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

c) **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;

- d) **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;

C.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 readily read, copied and recorded. Communications 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.

C.1.5 Cancellation and re-invitation of tenders

C.1.5.1 An organ of state may, prior to the award of the tender, cancel the tender if-

- (a) due to changed circumstances, there is no longer a need for the services, works or goods requested; or
- (b) funds are no longer available to cover the total envisaged expenditure;
- (c) no acceptable tenders are received; or
- (d) there is a material irregularity in the tender process.

C.1.5.2 The decision to cancel the tender must be published in the same manner in which the original tender invitation was advertised.

C.1.5.3 An Employer may only with the prior approval of the relevant treasury cancel a tender invitation for a second time.

C.1.6 Procurement procedures

C.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the Employer shall announce only the names of the tenderers who make a submission. The requirements of C.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information.

Notwithstanding the provisions of C.2.17, the Employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers

Part T1: Tender Procedures

or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the Employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The Employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

C.1.6.3.2 Option 2

C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The Employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

C.1.6.3.2.2 The Employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data and award the contract in terms of these conditions of tender. Option 2 is not applicable to this tender.

C.2 Tenderer's obligations

C.2.1 Eligibility

C.2.1.1 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.

C.2.1.2 Notify the Employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the Employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the Employer's written approval to do so prior to the closing time for tenders.

C.2.1.3 Only those tenderers who can submit all mandatory requirements under Form RD.D.1 are eligible to submit a tender.

C.2.2 Cost of tendering

C.2.2.1 Accept that, unless otherwise stated in the tender data, the Employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

C.2.2.2 The cost of the tender documents charged by the Employer shall be limited to the actual cost incurred by the Employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

Check the tender documents on receipt for completeness and notify the Employer of any discrepancy or omission.

C.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.

C.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.

C.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.

C.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.

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the Employer at least five (5) working days before the closing time stated in the tender data.

C.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.

C.2.10 Pricing the tender offer

C.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.

C.2.10.2 Show VAT payable by the Employer separately as an addition to the tendered total of the prices.

C.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.

C.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.

C.2.11 Alterations to documents

Part T1: Tender Procedures

Do 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.

C.2.12 Alternative tender offers

C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

C.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.

C.2.12.3 An alternative tender offer may only be considered in the event that the main tender is the winning tender.

C.2.13 Submitting a tender offer

C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture 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.

C.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 legibly in non-erasable ink.

C.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.

C.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.

C.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.

C.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.

C.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.

C.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.

C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the Employer, unless stated otherwise in the tender data.

C.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.

C.2.15 Closing time

C.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. Accept that proof of posting shall not be accepted as proof of delivery.

C.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.

C.2.16 Tender offer validity

C.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.

C.2.16.2 If requested by the Employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

C.2.16.3 Accept that a tender submission that has been submitted to the Employer may only be withdrawn or substituted by giving the Employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the Employer evaluating tender, the Contractor reserves the right to review the price based on Consumer Price Index (CPI).

C.2.16.4 Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.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 competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: *Sub-clause C.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.*

C.2.18 Provide other material

C.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.

C.2.18.2 Dispose of samples of materials provided for evaluation by the Employer, where required.

C.2.19 Inspections, test and analysis

Part T1: Tender Procedures

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

C.2.20 Submit securities, bonds and policies

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.

C.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.

C.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.

C.2.23 Certificates

Include in the tender submission or provide the Employer with any certificates as stated in the tender data.

C.3 The Employer's undertakings

C.3.1 Respond to requests from the tenderer

C.3.1.1 Unless otherwise stated in the Tender Data respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

C.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 three (3) working 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 collected tender documents.

C.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.

C.3.4 Opening of tender submissions

C.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.

C.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 and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

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

C.3.5 Two-envelope system

C.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. Two envelope system is not applicable to this tender.

C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise 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 functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

C.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.

C.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.

C.3.8 Test for responsiveness

C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

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

Part T1: Tender Procedures

C.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:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) 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.

C.3.9 Arithmetic errors, omissions and discrepancies

C.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

C.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
 - i) line-item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - ii) the summation of the prices.

C.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

C.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

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

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

C.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.

C.3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the Employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require Employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

- a) Open and record tender offers received
- b) Determine whether or not tender offers are complete
- c) Determine whether or not tender offers are responsive
- d) Evaluate tender offers
- e) Determine if there are any grounds for disqualification
- f) Determine acceptability of preferred tenderer
- g) Prepare a tender evaluation report
- h) Confirm the recommendation contained in the tender evaluation report

C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.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.

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.

C.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the Employer, it does not present any unacceptable commercial risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the Employer's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

C.3.14.1 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:

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the Employer and the successful tenderer.

C.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

C.3.15 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.

C.3.16 Registration of the award

Part T1: Tender Procedures

An Employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the CIDB Register of Projects.

C.3.16.2 After the successful tenderer has been notified of the Employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

C.3.17 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.

C.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

PART T2: RETURNABLE DOCUMENTS

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T2.1 LIST OF RETURNABLE DOCUMENTS

RD.A RETURNABLE DOCUMENTS FOR TENDER EVALUATION PURPOSES

Note: *Failure to submit the applicable documents will result in the tender offer being disqualified from further consideration*

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Form of Offer and Acceptance	Section C1.1	
MBD 4: Declaration of interest in tender of persons in service of state	Form RD.A.1	
MBD 8: Declaration of tenderer's past supply chain management practices	Form RD.A.2	

RD.B RETURNABLE DOCUMENTS REQUIRED FOR PREFERENTIAL PROCUREMENT EVALUATION PURPOSES

Note: *Failure to submit the applicable documents will result in the tender offer being awarded 0 (zero) preference points*

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Valid B-BBEE Status Level of Contributor Certificate		
MBD 6.1: Preference points claim form in terms of the Preferential Procurement Regulations, 2022	Form RD.B.1	

RD.C ADDITIONAL RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Note: *Failure to submit the applicable document will result in the Tenderer having to submit same upon request within 7 days and if not complied with, will result to the tender offer being disqualified from further consideration [See also clause 2.18 of the Standard Conditions of Tender]*

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Valid tax clearance certificate		
MBD 9: Certificate of independent tender determination	RD.C.1	
Proof of registration with the CIDB	RD.C.2	

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Compliance with OHSA (Act 85 of 1993)	RD.C.3	
Record of services provided to organs of state	RD.C.4	
Schedule of plant and equipment	RD.C.5	
Status of concern submitting tender	RD.C.7	
Classification of business	RD.C.8	
MBD 5: Declaration for procurement above R10 million (all applicable taxes included)	RD.C.9	
Certificate of authority of signatory	RD.C.10	
Certificate of authority of signatory for joint ventures and consortia	RD.C.11	
Letter of intent to provide a performance bond	RD.C.12	

RD.D MANDATORY REQUIREMENTS

Note: *Failure to submit fully completed applicable documents will result in the tender being disqualified from further consideration.*

Document Name	Reference	Confirmation of Document Included (Tenderers may use this column to confirm documents have been completed and included in the tender)
Mandatory requirements (company experience, key staff and equipment)	RD.D.1	

RD.E OTHER DOCUMENTS THAT WILL FORM PART OF THE CONTRACT

Note: *Failure to submit or fully complete the applicable documents will result in the tender offer being disqualified from further consideration*

Document Name	Reference	Confirmation of Document Included (Tenderers may use this column to confirm documents have been completed and included in the tender)
Form of offer and acceptance	Section C1.1	
Data provided by the contractor	Section C1.2	
Record of addenda to tender documents	RD.E.1	
Cost Price Adjustment (CPA) – Imported Content (FOREX)	RD.E.4	

T2.2 RETURNABLE SCHEDULES

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FORM RD.A.1 MBD 4

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**
 - 3.1 Full Name of bidder or his or her representative:
 - 3.2 Identity Number:
 - 3.3 Position occupied in the Company (director, trustee, shareholder²)
 - 3.4 Company Registration Number:
 - 3.5 Tax Reference Number:
 - 3.6 VAT Registration Number:
 - 3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
 - 3.8 Are you presently in the service of the state? **YES / NO**
 - 3.8.1 If yes, furnish particulars.

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

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

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

- 3.9 Have you been in the service of the state for the past twelve months? **YES/NO**
- 3.9.1 If yes, furnish particulars.
- 3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
- 3.10.1 If yes, furnish particulars.
- 3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**
- 3.11.1 If yes, furnish particulars.

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

3.12.1 If yes, furnish particulars.
.....

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

3.13.1 If yes, furnish particulars.
.....

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

3.14.1 If yes, furnish particulars:
.....

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

<i>Full Name</i>	<i>Identity Number</i>	<i>State Employee Number</i>

.....
Signature

.....
Date

.....
Capacity

FORM RD.A.2 MBD 8: DECLARATION OF TENDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTISES

1. This municipal tender document must form part of all tenders invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The tender of any tenderer may be rejected if that tenderer, or any of its directors have:
 - a. abused the municipality's/municipal entity's supply management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. wilfully neglected, reneged on or failed to comply with any government, Municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of Section 29 of the Prevention and Combating of Corrupt Activities Act, 2004 (Act 12 of 2004).
4. In order to give effect to the above, the following questionnaire must be completed and submitted with the tender:

Item	Question	Response	
4.1	Is the tenderer, any of its directors listed on the National Treasurer's database as a company or persons prohibited from doing business with the public sector? (Companies for persons who are listed on this database were informed in writing of this restriction by the National Treasury after the audi alteram partem rule was applied) If so, furnish particulars:	YES	NO
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 Corrupt Activities Act, 2004 (Act 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) If so, furnish particulars:	YES	NO
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? If so, furnish particulars:	YES	NO

Item	Question	Response	
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 to any other municipality/municipal entity, that is in arrears for more than three months?	YES	NO
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?	YES	NO
If so, furnish particulars:			

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.B.1

MBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

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

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

1. GENERAL CONDITIONS

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

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

1.2 **To be completed by the organ of state**

(delete whichever is not applicable for this tender).

a) The applicable preference point system for this tender is the 90/10 preference point system.

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

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

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

The maximum points for this tender are allocated as follows:

	Points
PRICE	90
SPECIFIC GOALS	10
TOTAL POINTS FOR PRICE AND SPECIFIC GOALS	100

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

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

2. DEFINITIONS

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 90/10 PREFERENCE POINT SYSTEMS

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

90/10

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

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

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

3.2.1. POINTS AWARDED FOR PRICE

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

90/10

$$P_s = 90 \left(1 + \frac{P_t - P_{max}}{P_{max}} \right)$$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

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

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

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

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Proof of specific goals to be submitted	Number of points claimed (90/10 system) (To be completed by the tenderer)
BB-BEE score of companies		Valid Certified copy of BBBEE certificate. For EME's and QSE's copy of a valid Sworn affidavit.	
Level 1	4 Points		
Level 2	3.5 Points		
Level 3	3 Points		
Level 4	2.5 Points		
Level 5	2 Points		
Level 6	1.5 Points		
Level 7	1 Points		
Level 8	0.5 Point		
Non-compliant	0 Points		
EME and/or QSE	1	Valid Sworn affidavit	
At least 51% Women owned companies	1	Certified copy of Identity Document/s	
At least 51% owned companies by People with disability	1	Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers)	
At least 51% owned companies by Youth	1	Certified copy of Identity Document/s	
Local Economic Participation		Municipal Account statement/Lease agreement.	

City of Tshwane Participants	2		
Gauteng Participants	1		
National participants	1		

DECLARATION WITH REGARD TO COMPANY/FIRM

4.2. Name _____ of
 company/firm.....

4.3. Company _____ registration _____ number:

4.4. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

4.5. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person’s conduct;
 - (c) cancel the contract and claim any damages which it has suffered

as a result of having to make less favourable arrangements due to such cancellation;

- (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution, if deemed necessary.

..... SIGNATURE(S) OF TENDERER(S)	
SURNAME AND NAME:	.....
DATE:	.....
ADDRESS:	.....

FORM RD.C.1 MBD 9: CERTIFICATION OF INDEPENDENT TENDER DETERMINATION

1. This Municipal Bidding Document (MBD) must form part of all tenders¹¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive tendering (or tender rigging)²². Collusive tendering is a *per se* prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. Take all reasonable steps to prevent such abuse;
 - b. Reject the 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
 - c. 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.
4. This will serve 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.
5. In order to give effect to the above, the attached Certificate of Tender Determination must be completed and submitted with the tender.

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

² 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 tender process. Tender rigging is, therefore, an agreement between competitors not to compete.

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying tender:

Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Areas A, B, and C): Three (3) Year Period, as and when required

in response to the invitation for the tender made by

City of Tshwane Metropolitan Municipality

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

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

1. I have read and understand the contents of this certificate;
2. I understand that the accompanying tender will be disqualified if this certificate is found not to be true and complete in every aspect;
3. I am authorised by the tenderer to sign this certificate, and to submit the accompanying tender, on behalf of the tenderer;
4. Each person whose signature appears on the accompanying tender has been authorised by the tenderer to determine the terms of, and to sign, the tender, on behalf of the tenderer;
5. 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:
 - a. Has been requested to submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
 - b. 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.
6. The tenderer has arrived at the accompanying tender independently form, 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.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a. Prices;
 - b. Geographical area where product of services will be rendered (market allocation);
 - c. Methods, factors or formulas used to calculate prices;
 - d. The intention or decision to submit or not to submit, a tender;
 - e. The submission of a tender which does not meet the specifications and conditions of the tender; or
 - f. Tendering with the intention not to win the tender.

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

8. In addition, there have been no consultations, communications, agreements or arrangement with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this tender invitation relates.
9. 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 to the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practises 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 form conduction 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.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.2 PROOF OF REGISTRATION WITH THE CIDB

1. Attach original or certified copy of CIDB registration certificate to this page.

2. In the case of a joint venture / consortium (excluding consulting engineering partners) parties must each attach original of their CIDB registration certificate.

Firm	CRS Number	CIDB Grading	Lead Partner (Indicate with X)
Combined CIDB Grading for Joint Venture / Consortium:			

(Calculator is available at <https://registers.cidb.org.za/common/jvcalc.asp>)

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.3 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.
 (Tick applicable box)

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

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.4 RECORD OF SERVICES PROVIDED TO ORGANS OF STATE

Tenderers are required to complete this record in terms of the Supply Chain Management Regulations issued in terms of the Municipal Finance Management Act of 2003.

Include only those contracts where the tenderer identified in the signature block below was directly contracted by the employer. Tenderers must not include services provided in terms of a sub-contract agreement.

Where contracts were awarded in the name of a joint venture and the tenderer formed part of that joint venture, indicate in the column entitled "Title of the contract for the service" that was in joint venture and provide the name of the joint venture that contracted with the employer. In the column for the value of the contract for the service, record the value of the portion of the contract performed (or to be performed) by the tender.

Complete the record or attach the required information in the prescribed tabulation.

ALL SERVICES COMMENCED OR COMPLETED TO AN ORGAN OF STATE IN THE LAST FIVE YEARS				
	Organ of state, i.e. national or provincial department, public entity, municipality or municipal entity.	Title of contract for the service	Value of contract for service incl. VAT (Rand)	Date completed (State current if not yet completed)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				

(Attach additional pages if more space is required.)

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.5 SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of the major items of relevant equipment that I/we presently own/lease and will have to be available for this contract or will hire/acquire for this contract as proof of the requirements for Clause F.3.13 b) of the Conditions of Tender

Major equipment owned/leased that is immediately available for the execution of the works (Attach proof of ownership to schedule)	
Quantity	Description, size, capacity etc.

(Attach additional pages if more space is required)

Major equipment that will be hired or acquired for the execution of the works	
Quantity	Description, size, capacity etc.

(Attach additional pages, such as proof of ownership if more space is required)

FORM RD.C.7 STATUS OF CONCERN SUBMITTING TENDER

1. General

State whether the tenderer is a company, a closed corporation, a partnership, a sole practitioner, a joint venture/consortium or a co-operative.

Public Company	<input type="checkbox"/>
Private Company	<input type="checkbox"/>
Closed Corporation	<input type="checkbox"/>
Partnership	<input type="checkbox"/>
Sole Proprietary	<input type="checkbox"/>
Joint Venture / Consortium	<input type="checkbox"/>
Co-operative	<input type="checkbox"/>

(Mark the appropriate option)

2. Information to be provided

If the Tendering Entity is a:		Documentation to be submitted with the tender
1	<u>Closed Corporation</u> , incorporated under the Close Corporation Act, 1984, Act 69 of 1984	CIPRO CK1 or CK2 (Certified copies of the founding statement) and list of members
2	<u>Private Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973 (Including Companies incorporated under Art 53 (b))	Certified copies of: a) CIPRO CM 1 - Certificate of Incorporation b) CIPRO CM 29 – Contents of Register of Directors, Auditors and Officers c) Shareholders Certificates of all Members of the Company, plus a signed statement of the Company’s Auditor, certifying each Member’s ownership/shareholding percentage relative to the total.
3	<u>Private Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973 in which any, or all, <u>shares are held by another</u> Closed Corporation or company with, or without, share capital.	Certified copies of documents referred to in 1 and/or 2 above in respect of all such Closed Corporations and/or Companies
4	<u>Public Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973 (Including Companies incorporated under Art 21)	A signed statement of the Company’s Secretary confirming that the Company is a public Company.
5	<u>Sole Proprietary</u> or a <u>Partnership</u>	Certified copy of the Identity Document of: a) such Sole Proprietary, or b) Each of the Partners in the Partnership Certified copy of the Partnership agreement.

If the Tendering Entity is a:		Documentation to be submitted with the tender
6	<u>Co-operative</u>	CIPRO CR2 - Certified copies of Company registration document.
7	<u>Joint Venture / Consortium</u>	All the documents (as described above) as applicable to each partner in the joint venture / consortium as well as a certified copy of the joint venture / consortium agreement.

Note:

1. If the shares are held in trust provide a copy of the Deed of Trust (only the front page and pages listing the trustees and beneficiaries are required) as well as the Letter of Authority as issued by the Master of the Supreme Court wherein trustees have been duly appointed and authorised
2. Include a certified copy of the Certificate of Change of Name (CM9) if applicable.

3. Registered for VAT proposes in terms of the Value-Added Tax Act (89 of 1991)

Yes

No

(Make an X in the appropriate space)

REGISTRATION NO: _____

FORM RD.C.8 CLASSIFICATION OF BUSINESS

1. The Small Businesses are defined in the National Small Business Act, 1996 (Act 102 of 1996).
2. Information furnished with regard to the classification of Small businesses.
 - (a.) Indicate whether the company/entity is defined as a small, medium or micro enterprise by the National Small Business Act.

YES	NO
-----	----

(Tick appropriate box)

- (b.) If the response to 2.(a.) is **YES**, the following must be completed:
 - i. Sector/sub-sector in accordance with the Standard Industrial classification:

 - ii. Size or class:

 - iii. Total full-time equivalent of paid employees:

 - iv. Total annual turnover:

 - v. Total gross asset value (fixed property excluded):

(A schedule indicating the different sectors is attached to this form.)

- (c.) The tenderer should substantiate the information provided by submitting the following documentation:
 - i. A letter from the tenderer's auditor or an affidavit from the South African Police Services confirming the correctness of the abovementioned information,
 - ii. Company profile indicating the tenderer's staff compliment, and
 - iii. 3-year financial statement or since their establishment if established during the past 3 years.

SCHEDULE OF SECTORS

SIZE OF CLASS	THE TOTAL FULL-TIME EQUIVALENT OF PAID EMPLOYEES	TOTAL TURNOVER	TOTAL GROSS ASSET VALUE (FIXED PROPERTY EXCLUDED)
AGRICULTURE			
Medium	100	R 5 mil	R 5 mil
Small	50	R 3 mil	R 3 mil
Very Small	10	R 500 000	R 500 000
Micro	5	R 200 000	R 100 000
MINING AND QUARRYING			
Medium	200	R 39 mil	R 23 mil
Small	50	R 10 mil	R 6 mil
Very Small	20	R 4 mil	R 2 mil
Micro	5	R 200 000	R 100 000
MANUFACTURING			
Medium	200	R 51 mil	R 19 mil
Small	50	R 13 mil	R 5 mil
Very Small	20	R 5 mil	R 2 mil
Micro	5	R 200 000	R 100 000
ELECTRICITY, GAS & WATER			
Medium	200	R 51 mil	R 19 mil
Small	50	R 13 mil	R 5 mil
Very Small	20	R 5.1 mil	R 1.9 mil
Micro	5	R 200 000	R 100 000
CONSTRUCTION			
Medium	200	R 26 mil	R 5 mil
Small	50	R 6 mil	R 1 mil
Very Small	20	R 3	R 500 000
Micro	5	R 200 000	R 100 000
RETAIL AND MOTOR TRADE & REPAIR SERVICES			
Medium	200	R 39 mil	R 6 mil
Small	50	R 19 mil	R 3 mil
Very Small	20	R 4 mil	R 600 000
Micro	5	R 200 000	R 100 000
WHOLESALE TRADE, COMMERCIAL AGENTS AND ALLIED SERVICES			
Medium	200	R 64 mil	R 10 mil
Small	50	R 32 mil	R 5 mil
Very Small	20	R 6 mil	R 600 000
Micro	5	R 200 000	R 100 000
CATERING, ACCOMMODATION AND OTHER TRADE			
Medium	200	R 13 mil	R 3 mil
Small	50	R 6 mil	R 1 mil
Very Small	20	R 5.1 mil	R 1.9 mil
Micro	5	R 200 000	R 100 000
TRANSPORT, STORAGE & COMMUNICATIONS			
Medium	200	R 26 mil	R 6 mil
Small	50	R 13 mil	R 3 mil
Very Small	20	R 3 mil	R 600 000
Micro	5	R 200 000	R 100 000
FINANCE & BUSINESS SERVICES			
Medium	200	R 26 mil	R 5 mil
Small	50	R 13 mil	R 3 mil
Very Small	20	R 3 mil	R 500 000
Micro	5	R 200 000	R 100 000
COMMUNITY, SOCIAL AND PERSONAL SERVICES			
Medium	200	R 13 mil	R 6 mil
Small	50	R 6 mil	R 3 mil
Very Small	20	R 1mil	R 600 000
Micro	5	R 200 000	R 100 000

FORM RD.C.9 MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION

1. The tenderer is required by law to prepare annual financial statements for auditing their audited annual financial statements:
- i) for the past three years; or
 - ii) Since the establishment if established during the past three years.

Indicate whether these have been included in the tender:

YES	NO
-----	----

2. Does the tenderer have any undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days?

YES	NO
-----	----

If so, state particulars _____

3. Has any contracts been awarded to the tenderer by an organ of state during the past five years?

YES	NO
-----	----

If so, state particulars _____

4. Has there been any material non-compliance or dispute concerning the execution of such contract?

YES	NO
-----	----

If so, state particulars _____

5. Is any portion of the goods or services expected to be sourced from outside the Republic?

YES	NO
-----	----

If, so state what portion and whether any portion of payment from the municipality is expected to be transferred outside of the Republic.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.10 CERTIFICATE OF AUTHORITY OF SIGNATORY

RESOLUTION of a meeting of the *Board of Directors/Members/Partners of

(Legally correct full name and registration number, if applicable, of the enterprise)

Held at: _____ (place)

On: _____ (date)

RESOLVED that:

- The enterprise submits a tender to the Tshwane Metro Municipality in respect of the following project:
GPM

Tender Number:	WS 19 2022/23
Tender Description:	Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water Network Pipelines in the City of Tshwane, (Areas A, B, and C): Three (3) Year Period, as and when required
2. *Mr/Ms:	
in *his/her capacity as	

and who will sign as follow:

Proof signature	Proof signature
-----------------	-----------------

be, and is hereby authorised to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the enterprise mentioned above

NAME	CAPACITY	SIGNATURE

<p>Note:</p> <ol style="list-style-type: none"> *Delete which is not applicable. IMPORTANT: This resolution <u>must</u> be signed by all the directors/members/ partners of the tendering enterprise. Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page. 	<p>Enterprise stamp</p>
--	-------------------------

FORM RD.C.11 CERTIFICATE OF AUTHORITY OF SIGNATORY FOR JOINT VENTURES AND CONSORTIA

*Joint venture/consortium name: _____

We, the undersigned, are submitting this tender in a *joint venture/consortium and hereby authorise *Mr/Ms _____ authorised signatory of the enterprise acting in the capacity of lead partner

_____ to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the *joint venture/consortium mentioned above.

Registered name of enterprise	Registration number	% of contract value	Address	Duly authorised signatory	Mark with (x) for lead partner

Note:

- *Delete which is not applicable.
- IMPORTANT: This resolution must be signed by all the parties of the joint venture/consortium and every duly authorised signatory for each party to the joint venture/consortium must complete a Form RD.C.15.
- Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page.

FORM RD.C.12 LETTER OF INTENT TO PROVIDE A PERFORMANCE BOND

It is hereby agreed that a Performance Bond drafted **exactly** as set out in the attached examples (See Section C1.3: Form of Guarantee) will be provided by the Surety named below:

Name of Surety (Bank or Insurer) _____

Address: _____

Signed: _____

Name: _____

Capacity: _____

On behalf of Tenderer (name of tenderer) _____

Date: _____

CONFIRMED BY Surety's Authorised representative

Signature(s): _____

Name (print): _____

Capacity _____

On behalf of Surety (Bank or Insurer) _____

Date: _____

Note: Refer to the Annexure to **C1.3 Form of Guarantee** for the List of Institutions from who Contract/Deposit Guarantees will be accepted.

FORM RD.D.1 MANDATORY REQUIREMENTS

1. CIDB grading – Level 7CE or Higher

Active CIDB grading level of 7CE or Higher - Joint ventures must have a minimum grading level 7CE when consolidated.

2. Letter of Good Standing

Valid Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)

3. Performance guarantee

Letter of intent – performance guarantee

4. Key staff

- Qualifications of key personnel
 - Contracts Manager – Minimum of B-Eng or B-Tech Degree Civil Engineering
 - Civil Site Agent - Minimum of Diploma Civil Engineering
 - Site foreman – Minimum of Diploma Civil Engineering
 - Civil Supervisor / Team Leader / Artisan – Trade Test Certificate in Civil Engineering
 - Health and Safety Officer – SACPCMP Registration Certificate

The appointed Materials and Construction Manager must have a NQF level 5 qualification for EPWP labour intensive construction works.

Proposed detailed organisation and staffing plan in the form of an organogram to be implemented on this project. Append all documentary proof to support your submission failing which the submission will be rejected.

Curriculum Vita's including experience, level of education and training, and positions held for each of the key staff including certified copies of the qualifications:

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.	
<u>Person authorized to sign the tender:</u>	
Full name (in BLOCK letters):	_____
Signature:	_____
Date:	_____

FORM RD.E.1 RECORD OF ADDENDA TO TENDER DOCUMENTS

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

	DATE	REFERENCE	TITLE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

PORTION 2: CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

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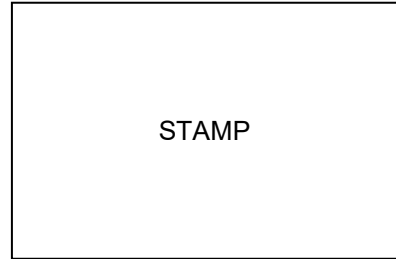
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C1.1 FORM OF OFFER AND ACCEPTANCE



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

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENTION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

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

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

THE OFFERED TOTAL OF PRICES INCLUSIVE OF VALUE ADDED TAX IS

R

(in figures)

(in words)

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

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at **on this** **day of**

WITNESSES: (Full name – BLOCK LETTERS – and signature)

1.

2.

ACCEPTANCE

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

The terms of the contract, are contained in

Part T1	Tendering Procedures
Part T2	Returnable Documents
Part C1	Agreements and Contract Data, (which includes this Agreement)
Part C3	Scope of Work
Part C4	Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Tenderer shall within two weeks after receiving a letter of acceptance, contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of 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 these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties¹.

¹ As an alternative, the following wording may be used:

Notwithstanding anything contained herein, this agreement comes into effect two days after the submission by the Employer of one fully completed original copy of this document including the schedule of deviations (if any), to a courier-to-counter delivery / counter-to-counter delivery /door-to-counter delivery / door-to-door delivery / courier service (delete that which is not applicable), provided that the Employer notifies the Tenderer of the tracking number within 24 hours of such submission. Unless the Tenderer (now Contractor) within seven days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

NAME(s): (BLOCK LETTERS)	.....	.....	
CAPACITY of authorized agents:	.....	.....	
SIGNATURE(s) of authorized agents:	.....	.....	
SIGNED at	.....	on this	.....	day of	.....
WITNESSE(S): (Full name – BLOCK LETTERS – and signature)					
1.	.....	.....	.....	.....	.....
2.	.....	.....	.....	.....	.....

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender;
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such, letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of, offer and acceptance, the outcome of such agreement shall be recorded here;
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here;
4. Any change or addition to the tender documents arising from the above agreements and recorded here shall also be incorporated into the final draft of the Contract.

4.1	Subject	.....
	Details	.....
4.2	Subject	.....
	Details	.....
4.3	Subject	.....
	Details	.....
4.4	Subject	.....
	Details	.....
4.5	Subject	.....
	Details	.....

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from the amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

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

FOR AND ON BEHALF OF THE **TENDERER:**

NAME(s): (in block letters)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

WITNESSES: (Full name – in block letters – and signature)

1.

2.

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

NAME(s): (in block letters)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

WITNESSES: (Full name – in block letters – and signature)

1.

2.

C1.2 CONTRACT DATA

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C.1.2.1 GENERAL CONDITIONS OF CONTRACT

The general conditions of contract applicable to this contract shall be the **General Conditions of Contract for Construction Works, Third Edition (2015)** of the South African Institution of Civil Engineering (SAICE), read together with the Variations and Additions to the Conditions of Contract as well as the Data provided by employer.

Tenderers, contractors and subcontractors shall obtain their own copies of the document **General Conditions of Contract for Construction Works, Third Edition (2015)** for tendering purposes and for use for the duration of the contract from the Secretary of the South African Institution of Civil Engineering, Private Bag X200, Halfway House, Midrand, 1685 and shall bear all expenses in this regard.

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT

The following variations and additions to the General Conditions of Contract for Construction Works, Third Edition (2015), shall apply to this contract:

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
1.1	<p>Add the following definitions:</p> <p>1.1.1.35 “Work Package” is work to be carried out under this contract.</p> <p>1.1.1.36 “Package Order” is an instruction to carry out a Work Package.</p>
1.2.1	<p>Add the following to the clause:</p> <p>1.2.1.3 Sent by facsimile, electronic or any like communication irrespective of it being during office hours or otherwise.</p>
1.2.3	<p>Add the following to the clause:</p> <p>1.2.3.1 The Employer has authorised the Group Head: Water and Sanitation to act on his behalf in respect of this Contract, save for such duties or functions:</p> <p>1.2.3.1.1 which other holders of office ex officio execute on behalf of the Employer; or</p> <p>1.2.3.1.2 for which the Group Head: Water and Sanitation has no authority and the Employer’s approval is required before execution thereof.</p>
4.3	<p>Add the following new sub-clause:</p> <p>1.3.3 Wages and conditions of work:</p> <p>i. For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall be guided by the latest Sectoral Determination: Civil Engineering Sector published from time to time.</p> <p>ii. Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.</p> <p>Add the following new sub-clause:</p> <p>4.3.4 Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37(2) of the Act. The Contractor shall sign the Occupational Health and Safety Agreement for Contract Work in the City of Tshwane Metropolitan Municipality included in section C1.5.</p> <p>Add the following new sub-clause:</p>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p>4.3.5 <i>The Employer retains an interest in all inquiries conducted under this Contract in terms of Section 31 and/or 32 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and its Regulations following any incident involving the Contractor and/or Sub-Contractor and/or their employees. The Contractor shall notify the Employer in writing of all investigations, complaints or criminal charges which may arise pursuant to work performed under this Contract in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Regulations.</i></p> <p>Add the following new sub-clause:</p> <p>4.3.6 <i>Contractor’s Designer</i></p> <p><i>The Contractor and his designer shall accept full responsibility and liability to comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Construction Regulations, 2014 for the design of the Temporary Works and those part of the Permanent Works which the Contractor is responsible to design in terms of the Contract</i></p>
5.12	<p>Add the following new sub-clause</p> <p>5.12.5 <i>Critical path provision</i></p> <p><i>A delay in so far as extension of time is concerned, will be regarded as a delay only if, on a claim by the Contractor in accordance with the General Conditions of Contract, the Engineer rules that all progress on an item or items of work on the critical path of the approved programme for the execution of the Works by the Contractor, has been brought to a halt. Delays on normal working days only, based on a working week, of five normal working days, will be taken in account for the extension of time.</i></p> <p>Add the following new sub-clause</p> <p>5.12.6 <i>Extension of time due to abnormal rainfall</i></p> <p><i>Extension of time due to abnormal rainfall shall be determined by means of Method 1, if rainfall records and/or values derived from rainfall records are supplied in the Scope of Work, otherwise Method 2 shall apply.</i></p> <p><u><i>Method 1: Rainfall formula method</i></u></p> <p><i>The rainfall records and/or values derived from rainfall records from a suitable rainfall station near the Site, which are supplied in the Project Specifications, shall be considered suitable for the determination of extension of time due to abnormal rainfall in accordance with this method.</i></p> <p><i>Extension of time arising from abnormal rainfall, shall be calculated separately for each calendar month or part thereof for the full period of completion of the Contract, including any extension thereof, in accordance with the rainfall formula given below:</i></p> $V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$ <p><i>If V is negative and its absolute value exceeds N_n, then V shall be equal to minus N_n.</i></p>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p><i>If V is positive and greater than the number of calendar days in the calendar month under consideration, V shall be taken as equal to the number of calendar days in the relevant calendar month.</i></p> <p><i>The symbols shall have the following meaning:</i></p> <p><i>V = Extension of time in calendar days in respect of the calendar month under consideration</i></p> <p><i>N_w = Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.</i></p> <p><i>R_w = Actual rainfall in mm for the calendar month under consideration.</i></p> <p><i>N_n = Average number of days as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month. Rainfall records and/or the derived values of N_n will be provided in the Specifications.</i></p> <p><i>R_n = Average rainfall in mm for the calendar month, as derived from existing rainfall records. Rainfall records and/or the derived values of R_n will be provided in the Project Specifications.</i></p> <p><i>X = 20 unless otherwise provided in the Project Specifications</i></p> <p><i>Y = 10 unless otherwise provided in the Project Specifications</i></p> <p><i>The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration. However, if the grand total is negative the time for completion shall not be reduced on account of abnormal rainfall. Extension of time for parts of a month shall be calculated by pro rata values of N_n and R_n being used.</i></p> <p><i>The factor (N_w – N_n) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm and wet conditions prevented or disrupted work.</i></p> <p><i>The factor $\frac{(R_w - R_n)}{X}$ shall be considered to represent a fair allowance for variations from the allowance for variations from the average number of days when wet conditions further to that allowed for the factor (N_w – N_n), prevented or disrupted work during the calendar month.</i></p> <p><i>Accurate rain gauging shall be taken at a suitable point on Site and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with.</i></p> <p><i>This formula does not take into account further on concurrent delays which could be caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i></p> <p><u>Method 2: Expected delay method</u></p> <p><i>The Contractor shall make provision in his programme for the execution of the Works, for an expected delay of "n" normal working days (based on a working week of five normal working days) due to normal rainfall, for which he will not receive any extension of time.</i></p>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p><i>Unless otherwise provided in the Project Specifications, the value of "n" shall be taken as equal to the tendered time for completion of the Works in months, rounded off to an integer.</i></p> <p><i>Extension of time during normal working days will be granted to the degree to which actual delays as determined in accordance with Sub-Clause (42.5 Critical Path Provision) hereof, exceed the number of "n" normal working days.</i></p> <p><i>The value of "n" does not take into account further or concurrent delays which are caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i></p>
6.1	<p>Add the following new sub-clause:</p> <p>6.1.2 <i>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way of his obligations either in contract or in delict.</i></p> <p>Add the following new sub-clause</p> <p>6.1.3 <i>The Contractor shall be paid at Pretoria in the currency of the Republic of South Africa only at the Office of the Chief Financial Officer of the CITY OF TSHWANE, unless otherwise stated in the Data provided by Employer.</i></p>
8.6	<p>Replace clause 8.6 with the following:</p> <p>8.6 Insurances</p> <p>8.6.1 <i>Without limiting the Contractor's/Sub-contractor's obligation in terms of the Contract, the Employer will effect and maintain for the duration of the Contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurances in the name of the Contractor (including all Subcontractors whether nominated or otherwise):</i></p> <p>8.6.2 <i>The Employer's insurer will indemnify the Contractor/Sub-contractor against physical loss of or damage to any part of the Property Insured not exceeding the maximum contract value or the final contract value estimated at inception including free issue materials were applicable as stated in the Contract Data:</i></p> <ul style="list-style-type: none"> a. <i>Whilst in transit including loading and unloading whilst temporarily stored at any premises en route to or from the Contract Site within the Territorial Limits;</i> b. <i>From the time of unloading, dismantling or preparation at the Contract Site and thereafter until the Property Insured has been officially accepted by the Employer and becomes his responsibility by means of a notice of completion certificate or similar evidence of legal transfer of risk;</i> c. <i>During the contractual defects liability or Maintenance Period which shall not exceed the period reflected in the Schedule but only so far as the Contractors and/or Sub-Contractors may be liable for such loss or damage under the defects liability or maintenance condition/s of the Insured Contract;</i> d. <i>Removal of debris;</i> e. <i>Surrounding property</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p>f. Work away;</p> <p>g. Off site storage</p> <p>h. Temporary repairs;</p> <p>i. Contribution clause – marine;</p> <p>j. Escalation during Contract Period;</p> <p>k. Post loss escalation;</p> <p>l. Automatic reinstatement;</p> <p>m. Principals maintenance;</p> <p>n. Property taken over;</p> <p>o. Beneficial occupation;</p> <p>p. Escalation due to currency fluctuation;</p> <p>q. Manufacturers guarantees</p> <p>8.6.3 The Employer’s insurer will indemnify the Contractor/Sub-contractor against all sums for which the Contractor/Sub-contractor shall become legally liable towards third party claimants to pay for and in consequence of:</p> <p>a. Accidental death of or bodily injury to or illness or disease contracted by any person (excluding employees of the Contractor/Subcontractor);</p> <p>b. Accidental physical loss or damage to tangible property occurring during the Period of Insurance and arising out of or in connection with the performance of the Insured Contract at the Contract Site as defined in the Schedule. The minimum limit of indemnity for any one event is R10-million in respect of contracts with a contract value of up to R50-million (excluding VAT).</p> <p>8.7 Insurance premium payable</p> <p>The Employer will pay the insurance premium for the works damage and public liability insurance cover. The insurance premium will be calculated based on the approved budget per financial year and the insurance premium will be charged out to the relevant departments by the Section: Insurance and Risk Management.</p> <p>8.8 Additional insurance by the Employer</p> <p>The Employer shall be free to effect at his own cost any additional insurance, which he deems necessary in own interest to cover loss or damage not insured in terms of the insurance policies of Sub-Clause 8.6.1.1 of this Clause.</p> <p>8.9 Additional insurance by the Contractor / Subcontractor</p> <p>The Contractor and Sub-contractor shall be free to effect and maintain at their own cost any additional insurance which the Contractor/Subcontractor deem necessary to cover damage, loss or injury not insured in terms of the insurance effected by the Employer’s insurer. The cost of the additional insurance will be for the account of the Contractor/Subcontractor.</p> <p>8.10 Contractor satisfied with insurance</p> <p>The submission of a tender shall be construed as acknowledgement by the Contractor that he is satisfied with the insurance cover affected by the Employer.</p> <p>8.11 Contractor to observe conditions</p>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p><i>The Contractor shall give all notices and observe all conditions and requirements imposed by the relevant insurance policies, which shall be binding on the Contractor.</i></p> <p>8.12 <i>Contractor to insure</i></p> <p><i>The Contractor/Sub-contractor must obtain for the duration of the contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurance policies at an insurance company within 14 (fourteen) days of the notification of acceptance of the tender and must pay all premiums and supply proof thereof to the relevant Project Manager, 30 (thirty) days before the inception of the contract, that the policies have been taken out and that all premiums have been paid:</i></p> <ul style="list-style-type: none"> a. <i>All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</i> b. <i>Motor Vehicle and Liability Insurance cover indicating the registration numbers of the vehicles owned, leased or hired by the Contractor that are used in the execution of the contract to the amount of at least R10-million per claim with the number of claims unlimited.</i> c. <i>SASRIA cover for motor vehicles and Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</i> d. <i>In respect of Plant and Materials and Equipment and Motor Vehicles brought onto the Site by or on behalf of Subcontractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Subcontractors have similarly insured such Plant and Materials and Equipment and Motor Vehicles.</i> e. <i>Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</i> <ul style="list-style-type: none"> - <i>Compensation for Occupational Injuries and disease, 1993</i> - <i>Unemployment Insurance Act, 1996</i> - <i>The Contractor shall in respect of the Site of the contract works appoint in writing a Section 16 appointee to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.</i> <p>8.13 <i>The Employer's Agent involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.</i></p> <p>8.14 <i>Reporting of incidents</i></p> <p><i>In the event of an occurrence, which is likely to give rise to a claim under the insurance policy affected by the Employer, the Contractor / Subcontractors and Project Manager will adhere to the following procedures:</i></p> <ul style="list-style-type: none"> a. <i>In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent of every occurrence within 48 (forty-eight) hours giving the circumstances, nature and an estimate of the loss or damage.</i> b. <i>The Employer's Agent will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p><i>after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Employer's Agent more than 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management, the claim will only be considered if the claim documentation is accompanied by a letter from the relevant Strategic Executive Director motivating the reason(s) for the late reporting of the incident, but the Project Manager must take note the Insurer might repudiate the loss if it is found that the insurers rights have been compromised as a result of the late reporting.</i></p> <p>c. <i>The following documentation must be included with the claim documentation:</i></p> <ul style="list-style-type: none"> - <i>Photos of damages caused or suffered as proof or substantiation of the claims.</i> <p>d. <i>In the event of Insured Property being damaged during the Contract Works beyond economical repair, the property must be safeguarded and be handed over to the Employer's insurer for salvage.</i></p> <p>e. <i>The Section: Insurance and Risk Management will inform the Employer's insurer of the incident. The Contractor/Subcontractor shall afford all reasonable access to the Site to the Employer, the Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i></p> <p>8.15 Reporting of catastrophic incidents</p> <p><i>In the event of an occurrence, which is likely to give rise to a claim, under the insurance policy effected by the Employer, with an estimated loss or damage of more than R250 000,00, the Contractor and the Employer's Agent will adhere to the following procedures:</i></p> <ul style="list-style-type: none"> a. <i>In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent Manager of every occurrence within 24 (twenty-four) hours giving the circumstances, nature and an estimate of the loss or damage.</i> b. <i>The Employer's Agent must notify the Section: Insurance and Risk Management on the same day that the Contractor/Sub-contractor has notified the Project Manager of the incident.</i> c. <i>The Section: Insurance and Risk Management will notify the Employer's insurer of the incident. The Contractor/Sub-contractor shall afford all reasonable access to the Site to the Employer, the Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> d. <i>The Employer's Agent will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Project Manager more than 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management, the claim will only be considered if the claim documentation is accompanied by a letter from the relevant Strategic Executive Officer motivating the reason(s) for the late reporting of the incident. Should the relevant claim documentation not be submitted within 30 (thirty) days, the claim will be repudiated.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p>8.16 <i>Reporting of crime related incidents</i></p> <p><i>All crime related incidents, losses or shortages irrespective of the value, must be reported within 24 (twenty-four) hours by the person who was involved or who has discovered the incident to the nearest South African Police Services (SAPS) station. The name of the Police Station, Investigation Officer and the Case number must be obtained and stated on the Contractor Claim Form. Should the incident not be reported to the SAPS, the claim will be repudiated.</i></p> <p>8.17 <i>Claim documentation</i></p> <p><i>The Employer's Agent must obtain all relevant information from the Contractor/Sub-contractor and complete the Contractor Claim Form, included in this report as Annexure B that is available on the Intranet. The project number must be stated on the Contractor Claim Form.</i></p> <p><i>The Employer's Agent must submit with the Contractor Claim Form a detailed cost sheet indicating the estimate of the loss or damage.</i></p> <p><i>Any misrepresentation, misdescription or non-disclosure of material facts, at the option of the insurers, can result in claims submitted being declared null and void.</i></p> <p>8.18 <i>Authorization of claim forms</i></p> <p><i>It is imperative that a formally delegated official or his nominee of the Employer should authorize the Contractor Claim forms as proof of the appropriate authorization, verification and approval of claims submitted. The Strategic Executive Director must provide an authorization letter to the Section: Insurance and Risk Management stating the names and the specimen signatures of the delegated official or his nominee within 30 (thirty) days from approval of this report by Council. Should the delegated official or his nominee not sign the relevant claim form, the claim will be repudiated as this may lead to inappropriate independent verification of the validity of claims, thereby increasing the risk of insurance fraud and consequent reputation damage to the Employer.</i></p> <p>8.19 <i>Contractor to pay deductibles</i></p> <p><i>Any claim in terms of the insurance affected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Annexure to the Policies as being the deductible (first amount payable or Excess) as defined in the Certificate of Insurance issued by the Employer's insurer in terms of the Policy.</i></p> <p>8.20 <i>Settlement of claims</i></p> <p><i>All incidents reported to the Section: Insurance and Risk Management in respect of an occurrence, which is likely to give rise to a claim will be forwarded to the Employer's insurer who will take the necessary actions for the settlement of any such claims.</i></p> <p><i>The Contractor shall <u>negotiate</u> for the settlement of claims with the Employer or the Employer's insurer through the Section: Insurance and Risk Management. The Employer's Chief Financial Officer will authorize all settlements of claims.</i></p>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<p><i>Should action for the settlement of any such claim to the satisfaction of the Employer's Agent not be taken by the Contractor/sub-contractor within 30 (thirty) days after receipt of such claim by the Contractor/sub-contractor, the Employer or the Employer's insurer may settle any such claim, after giving the Contractor notice of its intention to do so; provided that no such claim shall be settled by the Employer or the Employer's insurer without first consulting the Contractor/sub-contractor.</i></p> <p><i>The foregoing provisions of this Sub-Clause shall apply mutatis mutandis to any such claim received by the Contractor directly.</i></p>

C1.2.3 DATA PROVIDED BY THE EMPLOYER

CLAUSE/OPTION		DATA																													
1.1.1.13	The Defects Liability period is:	12 (twelve) months from the date of the Certificate of Completion.																													
1.1.1.14	The time for achieving Practical Completion is:	The time allocated by the Employer's Agent																													
1.1.1.15	The name of the Employer is:	City of Tshwane Metropolitan Municipality.																													
1.1.1.26	The Pricing Strategy is:	Re-measurement Contract																													
1.2.1.2	The address of the Employer is:	Physical Address:	225 Madiba Street, Pretoria, 0001																												
		Postal Address:	P.O. Box 1022 PRETORIA 0001																												
		E-Mail Address:	SteveN@tshwane.gov.za																												
1.1.1.16	The name of the Employer's Agent is:	Mr. Timothy Mothiba																													
1.2.1.2	The address of the Employer's Agent is:	Physical Address:	225 Madiba Street, Pretoria, 0001																												
		Postal Address:	225 Madiba Street, Pretoria, 0001																												
		E-Mail Address:	TimothyMot@tshwane.gov.za																												
3.1.3		<ul style="list-style-type: none"> • The Employer's Agent is required to obtain approval of the Employer: <ul style="list-style-type: none"> ▪ for expenditure on the Contract to exceed the Contract Price; ▪ prior to the execution of any of the following duties of functions: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">CLAUSE</th> <th>DUTY/FUNCTION</th> </tr> </thead> <tbody> <tr> <td>3.2.4</td> <td>Authorization to Employer's Agent Representative or any other person</td> </tr> <tr> <td>3.3.1</td> <td>Nomination of person as Employer's Agent Representative</td> </tr> <tr> <td>4.10.1</td> <td>Approval to use the Site for any other purpose such as housing</td> </tr> <tr> <td>5.3.1</td> <td>Delivery of the written notice to commence the execution of the works</td> </tr> <tr> <td>5.6.3</td> <td>Approval of programme of construction</td> </tr> <tr> <td>5.7.2</td> <td>Permission to carry out work by day and by night</td> </tr> <tr> <td>5.8.1.1</td> <td>Approval to work on special non-working days and between sunset and sunrise</td> </tr> <tr> <td>5.9.7</td> <td>Approval of Contractor's designs</td> </tr> <tr> <td>5.11</td> <td>Suspension of progress of the Works</td> </tr> <tr> <td>5.13.2</td> <td>Reduction of penalty for delay</td> </tr> <tr> <td>5.14.2</td> <td>The issue of a Certificate of Practical Completion</td> </tr> <tr> <td>5.14.4</td> <td>The issue of a Certificate of Completion</td> </tr> <tr> <td>5.16.1</td> <td>The issue of a Final Approval Certificate</td> </tr> </tbody> </table>		CLAUSE	DUTY/FUNCTION	3.2.4	Authorization to Employer's Agent Representative or any other person	3.3.1	Nomination of person as Employer's Agent Representative	4.10.1	Approval to use the Site for any other purpose such as housing	5.3.1	Delivery of the written notice to commence the execution of the works	5.6.3	Approval of programme of construction	5.7.2	Permission to carry out work by day and by night	5.8.1.1	Approval to work on special non-working days and between sunset and sunrise	5.9.7	Approval of Contractor's designs	5.11	Suspension of progress of the Works	5.13.2	Reduction of penalty for delay	5.14.2	The issue of a Certificate of Practical Completion	5.14.4	The issue of a Certificate of Completion	5.16.1	The issue of a Final Approval Certificate
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		6.3.1	Variation Orders in respect of variations which are not small
		6.6	Instruction to expend on Provisional and Prime Cost Sums
		6.11	Adjustment of Preliminary and General allowances
		7.8.1	Order to execute work of repair, etc, during the Defects Liability Period
		7.8.2	Determination of value of repair work
		8.2.2.2	Order to repair and make good damage arising from any excepted risk
5.3.1	The documentation required before commencement with Works execution are:	<ul style="list-style-type: none"> • Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Security (Refer to Clause 6.2) • Proof that all contributions required in terms of the provisions of the Workman’s Compensation Act (Act no 30 of 1941) as amended in 1993, 2002 have been paid (Refer to Cause 4.3.2) • A certified copy of Unemployment Insurance Certificate, Act of 1996 (Refer to Clause 4.3.2) or proof of registration 	
5.3.2	The time to submit the documentation required from the Commencement Date is:	14 days	
5.8.1	The non-working days are:	Sundays	
	The special non-working days are:	<ul style="list-style-type: none"> • Annual builders holiday • Statutory public holidays 	
5.13.1	The penalty for failing to complete the works is:	0.05% of the contract amount with a minimum of R 2 500 per working day.	
5.16.3	The latent defect period is:	10 (ten) Year	
6.2.1	Type of security for due performance:	<ul style="list-style-type: none"> • Guarantee from approved financial institution or cash deposit. • The Form of Guarantee is to contain the wording of the pro forma document included as C1.3 contained herein. 	
	Liability of performance guarantee	<p>The liability of the guarantee shall be for R 2 500 000 per allocation per applicable area (area of appointment).</p> <p>Area-A (Regions 1 and 2) Area-B (Region 3) Area C (Regions 4, 5, 6 and 7)</p>	
6.2.2	Retention money guarantee	Not permitted	
6.8.2	Adjustment in rates and/or prices	<ul style="list-style-type: none"> • The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: “L” is the “Labour Index” and shall be Gauteng, under CPI as published by Statistics South Africa. “P” is the “Plant Index” and shall be Plant and equipment, under Mining and construction plant and equipment price index as published by Statistics South Africa. “M” is the “Material Index” and shall be Civil Engineering – total, under Civil engineering material price indices as published by Statistics South Africa. 	

		<p>“F” is the “Fuel Index” and shall be Diesel, under PPI as published by Statistics South Africa.</p> <table border="1"> <thead> <tr> <th>Coefficient</th> <th>Description</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>Portion not subject to adjustment</td> <td>0.10</td> </tr> <tr> <td>A</td> <td>Labour</td> <td>0.20</td> </tr> <tr> <td>B</td> <td>Civil Engineering Plant</td> <td>0.35</td> </tr> <tr> <td>C</td> <td>Civil Engineering Materials</td> <td>0.30</td> </tr> <tr> <td>D</td> <td>Fuel</td> <td>0.15</td> </tr> </tbody> </table> <p>(Coefficients a, b, c and d must sum to one)</p> <ul style="list-style-type: none"> The urban area nearest the Site is Tshwane. The base month is the month prior to the closing of the procurement process required for a financial offer. 	Coefficient	Description	Value	X	Portion not subject to adjustment	0.10	A	Labour	0.20	B	Civil Engineering Plant	0.35	C	Civil Engineering Materials	0.30	D	Fuel	0.15
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6.8.3	Price adjustment for variations in the cost of special materials	Not allowed																		
6.10.1.5	The percentage on materials not yet built into the Permanent Works is:	80% (Eighty percent)																		
6.10.3	Percentage retention is:	10% (five percent) exclusive of VAT																		
	The limit of retention money is:	5% (five percent) of Contract Sum, excluding contingencies and VAT.																		
8.6	Insurance of the Works and Public Liability Insurance	<p>The Employer shall arrange this insurance.</p> <p>A copy of the policy and the list of excesses may be obtained from</p> <p>Contractors All Risk and Liability Insurance Ms. Morongwa Mokoena (Tel: 012 358 1126) (morongwam@tshwane.gov.za) Mrs Ronett Marlow-Reid (Tel: 012 358 1131) (ronetm@tshwane.gov.za) Mr Lawrence Matjila (Tel: 012 358 1374) (lawrencem@tshwane.gov.za)</p>																		
	The value of plant and materials supplied by the Employer to be included in the insurance sum is:	R 0 (zero)																		
	Responsibility for payment of deductibles in respect of Insurance of Works as well as Public Liability Insurance:	Deductibles are the responsibility of the Contractor																		
	Construction Plant:	Contractor to insure. Policy to be approved by Employer																		
10.5	Determination of disputes	Ad-hoc Adjudication Board																		
10.5.3	Number of Adjudication Board members to be appointed:	One																		
10.6	Disagreement with Adjudication Board’s decision, refer matters to:	Court proceedings																		

C1.2.4 DATA PROVIDED BY THE CONTRACTOR

CLAUSE/OPTION		DATA		
1.1.1.9	The name of the Contractor is:			
1.2.1.2	The address of the Contract is:	• Physical Address:		
		• Postal Address:		
		• Facsimile:		
		• E-Mail Address:		
6.2.1	The security to be provided by the Contractor shall be	Performance guarantee (10% <i>ten percent</i>) of the Contract Sum of the project allocated, excluding contingencies and VAT)		
6.8.3	Price adjustments for variations in the cost of special materials	The variation in cost of special materials is:		
		Type of material	Unit	Base Rate or Price

C1.3 FORM OF GUARANTEE

WHEREAS

The City of Tshwane Metropolitan Municipality
(hereinafter referred to as the "Council"),

enters into a Contract (No _____) with

(hereinafter referred to as the "Contractor")

for _____

AND WHEREAS in terms of the General Conditions of the Contract the Contractor is required to furnish an acceptable independent guarantee for the due and proper fulfilment by him of all his duties and obligations in terms of the said contract.

NOW THEREFORE we the undersigned _____

_____ (full names of authorized agent(s))

and acting in my/our capacity as _____

and _____

and as such duly authorized thereto, do hereby bind the said _____

(hereinafter referred to as the "Guarantor") as surety and co-principal Debtor *in solidum* for the sum of

R _____ (_____)

for the due and proper fulfilment by the Contractor of all or any of his duties and obligations in terms of the said Contract. The guarantee shall not be interpreted as accessory to the contract between Council and the Contractor.

The Guarantor further undertakes, in the event of the Contractor failing duly and properly to fulfil any of his duties and obligations in terms of the said Contract, or if the Contractor is placed under provisional liquidation or in the event of termination of the Contract by the Council in terms of the General Conditions of Contract, to pay to the Council the said sum of

R _____ (_____)

or such portion thereof as may be required by the Council, immediately upon receiving written demand from the Council which written demand shall be addressed to the Guarantor at (*domicilium* address)

The Guarantor further hereby renounces the benefits of the legal exceptions:

Exceptio non numerate pecuniae

Exception non causa debiti

Beneficium de duobus vel pluribus reis debendi

Beneficium ordinis deu excussionis

Beneficium divisionis

and all other defence which could be pleaded against the validity of this guarantee, with the meaning and effect of which it declares itself to be fully acquainted.

This undertaking shall remain in full force and effect up to and including the date of issue of the Certificate of Completion, as provided for in the General Conditions of Contract, unless the Guarantor is advised in writing by the Council of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated. Notwithstanding the aforesaid, the Council may at its' sole discretion elect to have the amount provided for under this guarantee, paid out directly to it in the case of breach of contract by the Contractor by giving the Guarantor written notice to that effect, notwithstanding the fact that the Council may decide not to institute any further legal action against the Contractor.

This document is not negotiable or transferable.

FOR AND ON BEHALF OF THE BANKER/INSURER:

BANKER/INSURER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

ANNEXURE

List of some institutions from which contract /deposit guarantees can be accepted. The contractor can utilize other institutions as long as they are registered with the NCR.

ABSA Bank
Credit Agricole Indosuez (South Africa Branch)
Development Bank of South Africa
FirstRand Bank
ING Bank N.V. (South Africa Branch)
Investec Bank
Landbank
National Housing Finance Co.
Nedcor Bank
South African Reserve Bank
Standard Bank
AIG South Africa
Credit Guarantee Insurance Co
Emerald Insurance Company
Federated Employers Mutual Assurance Co
Global Insurance Company
Guardrisk Insurance Company
Hannover Re:
Home Loan Guarantee Company
Lion of Africa Insurance Company
Metropolitan Life
Metropolitan Odyssey Ltd
MUA Insurance
Mutual & Federal Insurance Company
Rand Mutual Assurance Company
Regent Insurance Company
SA Eagle Insurance Company
Lombard Insurance.

C1.4 HEALTH AND SAFETY AGREEMENT

Article of Agreement in terms of Section 37(2) of the Occupational Safety Act, 1993 between

CITY OF TSHWANE

(Hereinafter referred to as the "EMPLOYER")

AND

Herein represented by _____ in his/her capacity as _____ duly authorised
by virtue of a resolution dated _____, attached hereto Annexure A, of the said
_____ (herein after referred to as the
"CONTRACTOR")

WHEREAS the CONTRACTOR is the mandatory of the EMPLOYER as contemplated in an agreement in respect of
**TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT,
AUGMENTATION AND EXTENTION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B,
AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED**

AND WHEREAS section 37 of the Occupational Health and Safety act, 1993 (Act 85 of 1993, hereinafter referred to as the "ACT"), imposes certain powers and duties upon the EMPLOYER.

AND WHEREAS the parties have agreed to enter into an agreement in terms of section 37(2) of the ACT.

NOW THEREFORE the parties agree as follows:

- (a) The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
- (b) The CONTRACTOR undertakes that all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations will be fully complied with. Provided that should the EMPLOYER prescribe certain arrangements and procedures, that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
- (c) The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedure, if any, imposed by the ACT and Regulations and the EMPLOYER expressly absolves the EMPLOYER from itself being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedure as the case may be.
- (d) The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with the undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not

be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to inspect any appropriate records held by the CONTRACTOR or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

- (e) The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigations, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such an investigation, complaint or criminal charge as the case may be

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

FOR AND ON BEHALF OF THE EMPLOYER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.5 ADJUDICATOR'S AGREEMENT

This agreement is made on the _____ day of _____ between:

_____ (name of company /
organisation)

of _____

_____ (address) and

_____ (name of company /
organisation)

of _____

_____ (address)

(the Parties) and

_____ (name of
Adjudicator)

of _____

_____ (address)

(the Adjudicator).

Disputes or differences may arise/have arisen¹ between the Parties under a Contract dated _____ and known as _____

and these disputes or differences shall be/have been² 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.

IT IS NOW AGREED as follows:

- 1 The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
- 2 The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
- 3 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.
- 4 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.
- 5 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.

¹ Delete as necessary

² Delete as necessary

SIGNED by:

SIGNED by:

SIGNED by:

Name: _____

Name: _____

Name: _____

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

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

the Adjudicator in the presence of

Witness

Witness:

Witness:

Name: _____

Name

Name: _____

Address: _____

Address:

Address: _____

Date: _____

Date: _____

Date: _____

Contract Data

1	The Adjudicator shall be paid at the hourly rate of R _____ in respect of all time spent upon, or in connection with, the adjudication including time spent travelling.
2	The Adjudicator shall be reimbursed in respect of all disbursements properly made including, but not restricted to: (a) Printing, reproduction and purchase of documents, drawings, maps, records and photographs. (b) Telegrams, telex, faxes, and telephone calls. (c) Postage and similar delivery charges. (d) Travelling, hotel expenses and other similar disbursements. (e) Room charges. (f) Charges for legal or technical advice obtained in accordance with the Procedure.
3	The Adjudicator shall be paid an appointment fee of R _____. This fee shall become payable in equal amounts by each Party within 14 days of the appointment of the Adjudicator, subject to an Invoice being provided. This fee will be deducted from the final statement of any sums which shall become payable under item 1 and/or item 2 of the Contract Data. If the final statement is less than the appointment fee the balance shall be refunded to the Parties.
4	The Adjudicator is/is not ³ currently registered for VAT.
5	Where the Adjudicator is registered for VAT, it shall be charged additionally in accordance with the rates current at the date of invoice.
6	All payments, other than the appointment fee (item 3) shall become due 7 days after receipt of invoice, thereafter interest shall be payable at 5% per annum above the Reserve Bank base rate for every day the amount remains outstanding.

³ Delete as necessary

PRICING DATA

INDEX

Section	Description	Page No
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C2.2	PRICING SCHEDULE	C2.2-1
C2.3	SUMMARY OF SCHEDULES	C2.3-1

C2.1 PRICING INSTRUCTIONS

1. General

1.1 This section provides the tenderer with guidelines and requirements with regard to the completion of the Bill of Quantities. The Schedule has to be completed in black ink and the tenderer is referred to the Tender Data in regard to the correction of errors.

1.2 The Bill of Quantities shall be read with all the documents which form part of this Contract.

1.3 The following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work in terms of the Specifications.

Quantity: The number of units of work for each item.

Rate: The payment per unit of work at which the tenderer tenders to do the work.

Amount: The product of the quantity and the rate tendered for an item.

Sum: An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications and the Drawings (if applicable), but the quantity of work of which is not measured in any units.

1.4 Reference shall be made to the General Conditions of Contract regarding Provisional and Prime Costs Sums.

2. Pay Items

2.1 The method of measurement published by the City of Tshwane in section 001 clause 04 and the clauses titled "Measurement and Payment" in the various sections of the Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005, is applicable for all civil works, subject to the variations and amendments contained in section C3.4.3.

2.2 For preliminary and general charges, the method of measurement and payment shall be as specified in Volume 2 of the contract documents. Measurement and payment of mechanical and electrical equipment shall be as described in the Particular Specification, as amended, or as described in the Schedule of Quantities.

2.3 Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Specifications. The measurement and payment clause in the 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 in the Specification, or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Specification or Scope of Work, as applicable, shall prevail.

2.4 The item numbers appearing in the Bill of Quantities refer to the corresponding item number in the Specifications

or as amended in the Scope of Work. In the latter case, the item number is prefixed with the letter "B". The same applies to new clauses added to the Specifications.

- 2.5 Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letter LI in a separate column filled in against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not supercede any of the requirements in the generic labour intensive specification in the Scope of Works.
- 2.6 Payment for items which are designated to be constructed labour-intensive (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.
- 2.7 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 2.8 The quantities set out in the Bill of Quantities are the estimated quantities of the Works, but the Contractor will be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
- 2.9 The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m ²	=	square metre	no.	=	number
m ² .pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ .km	=	cubic metre-kilometre	PC sum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	Per cent
MPa	=	megaspascal	kW	=	kilowatt
PS	=	Pipe Special number	V	=	Valve number

3. Rates

- 3.1 The prices and rates to be inserted in the Bill of Quantities are to be full inclusive prices for the work described under such 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 tender 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.

- 3.2 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 or where a word or phrase such as “included” or “provided elsewhere” will be accepted as a rate of nil (R0,00) having been entered against such items and covered by the other prices or rates in the Schedule.

Any work executed to which such a pay item applies, shall be measured under the appropriate items in the Bill of Quantities and valued at a rate of nil (R0,00). The rate of nil shall be valid irrespective of any change in the quantities during the execution of the Contract.

- 3.3 The Tenderer shall fill in a rate against all items.
- 3.4 The Tenderer shall not group together a number of items and tender one rate for such group of items.
- 3.5 All rates and sums of money quoted in the Bill of Quantities shall be in rands and whole cents. Fractions of a cent shall be discarded.
- 3.6 All prices and rates entered in the Bill of Quantities must be excluding VAT. VAT will be added last on the summary page of the Bill of Quantities.
- 3.7 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.
- 3.7.1** Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Documents and no specific payment item has been included for this, all associated costs shall be deemed to have been provided for and included in the unit rates and sum amounts tendered for the items scheduled in the Bill of Quantities, and separate additional payments will not be made.

4. LABOUR-INTENSIVE CONSTRUCTION

- 4.1 Those parts of the contract to be constructed using labour-intensive methods have been marked in the schedule of quantities with the letters LIC. The works, or parts of the works so designated are to be constructed using labour-intensive methods only in accordance with the *Guidelines for the implementation of Labour-Intensive Infrastructure Projects under the Extended Public Works Programme (EPWP)* included under section C3.7.1 in volume 1.

The items marked LIC 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 included under section C3.7.1 of volume 1.

- 4.2 Payments for items which are designated to be constructed labour-intensively 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.

5. PIPE SCHEDULE

5.1 Pipes, fittings and specials are scheduled separately in the Pipe Schedules for each Section. The individual Pipe Schedule totals have to be carried forward to the relevant item in each Section.

5.2 The following abbreviations are used in the Pipe Schedule:

dia	-	diameter	uPVC	-	Unplasticised Polyvinyl Chloride
mat	-	material	MS	-	Mild Steel
SS	-	Stainless Steel	AS	-	As Specified
c to f	-	centre to face	GMS	-	Galvanised Mild Steel
d.f	-	double flanged	o.a	-	overall
p.f	-	puddle flange	CI	-	Cast Iron
NB	-	Nominal Bore	w.t	-	wall thickness

5.3 Applicable general material and corrosion protection specifications for the Pipe Schedule Items are (unless otherwise specified):

- (a) All mild steel pipes and fittings shall be treated with a polyamide-cured epoxy system similar and equal to Carboline 891 externally and internally as specified in Particular Specification PLQ to a dry film thickness of at least 300 micron.
- (b) Mild steel pipes shall comply with the requirements of Particular Specification PLN and SABS 719 Grade A pipes.
- (c) All bolts, nuts and washers shall be manufactured from grade 304 stainless steel for above ground and below water level applications and from galvanised mild steel for pipes installed below ground. Allowance shall be made for two washers under each bolt and nut.
- (d) All rates shall be consistent for similar items of the same material and diameter. Where amendments are ordered, new rates shall be calculated by direct interpolation between the tender rates for the nearest two similar items. Only when amended or new items fall outside the range of similar items for which rates have been tendered, will new rates be negotiated.
- (e) Unless otherwise stated, the dimensions and drilling of flanges shall comply with the requirements of SABS 1123, Table 16 for pipes with a diameter of 150 mm and smaller and Table 10 for diameters exceeding 150 mm.

5.4 No pipes, fittings or specials shall be ordered unless authorised by the engineer in writing.

CORRECTION OF ENTRIES MADE BY TENDERER

Any entry made by the Tenderer in the Bill of Quantities, forms, etc, which the tenderer desires to change, shall not be erased or painted out. A line shall be drawn through the incorrect entry and the correct entry shall be written above in black ink and the full signature of the Tenderer shall be placed next to the correction.

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		AREA-A: REGIONS 1 AND 2				
		SERIES 0 : GENERAL				
		SECTION 001 : GENERAL REQUIREMENTS AND CHARGES				
001.01		Preliminary and general charges				
		.01 Fixed charges	month/per project	72		
002.01		Sevices for office and laboratories	Lump Sum/ per project	10		
002.02		Treatment and maintenance of areas surrounding offices and laboratories	Lump Sum / Per project	10		
B001.01		.02 Time-related charges	month/per project	72		
B001.01		.03 The Contractor's establishment on site	no	10		
B001.02		Location of existing services by locaters (detecting machine)	m	32 000		
B001.03	Li	Excavate by hand to expose existing services and backfill (LI)	per inspection hole	2 000		
001.04		Compliance with the Occupational Health and Safety Act and applicable regulations				
		.01 Provision of a Health and Safety plan	lump Sum/per project	4		
B001.04		.02 Provision of a Health and Safety file	lump Sum/per project	4		
B001.04		.03 Provision of construction supervisors	per month/ per project	72		
B001.04		.04 Provision of a safety officer (fullpart time)	per month/ per project	72		
B001.04		.08 Implementation of OHS plan	per month/ per project	72		
B001.05		Community Liaison Officer (CLO)	per month/ per project	72	R14 653,67	R1 055 064,24
B001.09	SC	Appointment of Local Security Company	Per month/ per site	72		
001.10		Day works				
		.01 Provision of skilled, semi skilled and unskilled for day works				
		.01 Qualified Artisan	hr	Rate only		
		.02 Semi-skilled labourer	hr	Rate only		
		.03 Labourer	hr	Rate only		
		.02 Plant Hire (use of plant already established on site for day works)				
		.01 Tipper Truck (10 ton)	hr	Rate only		
		.02 Flatbed truck (5 ton)	hr	Rate only		
		.03 Light delivery vehicle	hr	Rate only		
		.04 Water Tanker (large)	hr	Rate only		
		.05 Rammer	hr	Rate only		
		.06 TLB	hr	Rate only		
		.07 Butt welding machine	hr	Rate only		
B001.11	SC	Print, supply, distributions and removal of water interruptions notice colour printed				
		.01 Color printed on correx	m ²	500		
		.02 A5 flyers	each	5000		
TOTAL CARRIED TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 101: SITE CLEARING AND GRUBBING				
101.01		Clearing and grubbing				
	SC/Li	.01 Areas	m ²	1 000		
B101.01	SC/Li	.02 Strips 3m wide	m	10 000		
101.02		Cutting and removing large trees with a girth:				
	SC/Li	.01 Exceeding 1m and up to and including 2m (LI)	No	5		
	SC/Li	.02 Exceeding 2m and up to and including 3m (LI)	No	5		
101.03		Grubbing and the removal of the stumps and roots of large trees with a girth:				
	SC/Li	.01 Exceeding 1m and up to and including 2m	No	5		
	SC/Li	.02 Exceeding 2m and up to and including 3m	No	5		
TOTAL CARRIED TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 102: ACCOMMODATION TRAFFIC				
102.10		Provision of temporary fencing and gates				
	SC	.01 Temporary fencing	m	1 000		
	SC	.02 Temporary gates	No	5		
102.12		Provision of temporary bridges for maintaining access to properties				
		.01 Temporary pedestrian bridges	No	10		
		.02 Temporary vehicular bridges	No	10		
102.13		Moving of temporary bridges to and their re-erection in entirely new positions				
		.01 Temporary pedestrian bridges	No	50		
		.02 Temporary vehicular bridges	No	50		
B102.14		Temporary traffic-control facilities				
	Li	.01 Flagmen	per month/ per project	72		
		.02 Portable STOP and GO signs	No	20		
		.03 Amber flicker lights	No	20		
		.04 Road signs, TR-series, 1200mm in diameter or 900 x 675mm if rectangular	No	50		
		.05 Road signs, TW-series, 1 524mm sides	No	50		
		.06 Road signs, TG-series	m ²	30		
		.07 Danger plates and delineators	No	50		
		.09 Traffic cones	lump sum / per project	4		
		.10 Plastic New Jersey Barrier	No	100		
TOTAL CARRIED TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 104: LANDSCAPING AND GRASSING				
104.01		Trimming				
		.01 Machine trimming	m ²	20 000		
B104.01	Li	.02 Hand trimming	m ²	60 000		
104.03		Preparing areas for grassing and ground covers				
		.02 Topsoiling on the Site with -				
		.01 topsoil obtained from the Site or borrow areas provided by Employer	m ³	50		
		.02 topsoil provided by the Contractor from other sources (including all haul)	m ³	10 000		
104.03		.05 Stockpiling of topsoil	m ³	10 000		
104.08		Extra work for landscaping	Prov Sum	1	R50 000,00	R50 000,00
TOTAL CARRIED TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 2: EARTHWORKS				
		SECTION 202: TRENCHING				
202.01		Trench excavations				
		.01 Up to 1,0 m wide				
		.01 up to 2,0 m deep	m ³	28 000		
		.02 over 2,0 m deep	m ³	2 000		
202.02		Extra over items 202.01, 202.03 and 202.04 for excavating in				
		.02 hard material	m ³	10 000		
B202.03		Excavations outside the normal trench profile	m ³	2 000		
202.04	Li	Hand excavations Extra-over item 202.01	m ³	20 000		
B202.17	Li	Hand excavation for trenches inside erven.				
		Trenches 500 mm wide and 600 mm deep.	m ³	500		
202.06	Li	The backfilling of trenches with material obtained from excavations (excluding backfill around the pipe barrel)	m ³	17 000		
B202.07		Extra over items 202.06 and 202.13 for using backfill material obtained				
		.01 from borrow areas	m ³	1 000		
		.02 from sources provided by Contractor	m ³	8 000		
B202.07		.03 G4 provided by Contractor	m ³	5 000		
202.08		Backfilling additional excavations in trench floor using:				
		.02 concrete aggregate, max size 38 mm	m ³	50		
202.10	SC	Removal of spoil material -				
		.02 to dumping areas to be provided by the Contractor	m ³	18 000		
B202.11		Timbering and shoring left in excavations	m ³	50		
202.12		Extra over item 202.06 for additional compaction of back-fill to 93% of modified AASHTO density in road reserves	m ³	8 000		
202.13		Backfilling trenches with soilcrete under tar	m ³	50		
202.15		Reinstatement of bitumen surfaced roads	m ²	5 000		
B202.16		Cutting and removal of premix:				
		.01 Premix thickness up to 100 mm	m ²	4 000		
		.02 Premix thickness 101 mm up to 200 mm	m ²	1 000		
		.03 Premix thickness 201 mm up to 300 mm	m ²	100		
		.04 Premix thicker than 300 mm	m ²	100		
TOTAL CARRIED TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 4: WATER RETICULATION AND WATER MAINS				
		SECTION 402: CONSTRUCTION				
402.01		Supplying, laying and jointing of water pipes irrespective of depth:				
		.01 Class 12 uPVC pipes, SANS 966: 1998 Part 1				
	Li	.01 110 mm dia	m	6 000		
	Li	.02 160 mm dia	m	6 000		
	Li	.03 200 mm dia	m	2 000		
		.04 250 mm dia	m	2 000		
		.05 315 mm dia	m	2 000		
		.06 355 mm dia	m	1 000		
		.07 400 mm dia	m	1 000		
		.08 450 mm dia	m	500		
		.09 500 mm dia	m	500		
		.02 SANS / ISO 4427 PE100 PN12.5 HDPE pipes (including all fittings and couplings)				
	Li	.01 32 mm dia PN16	m	400		
	Li	.02 40 mm dia PN 16	m	400		
	Li	.03 50 mm dia PN16	m	400		
	Li	.04 63 mm dia PN 12.5	m	500		
	Li	.05 110 mm dia PN 12.5	m	3000		
	Li	.06 160 mm dia PN 12.5	m	3000		
	Li	.07 200 mm dia PN 12.5	m	1000		
		.08 250 mm dia PN 12.5	m	50		
		.09 315 mm dia PN 12.5	m	50		
		.10 355 mm dia PN 12.5	m	50		
		.11 400 mm dia PN 12.5	m	50		
		.12 500 mm dia PN 12.5	m	50		
		.03 PN 12.5 PVC –O 500 pipes, SANS / ISO 16422: 2008				
	Li	.01 110 mm dia	m	6 000		
	Li	.02 160 mm dia	m	6 000		
	Li	.03 200 mm dia	m	2 000		
		.04 250 mm dia	m	2 000		
		.05 315 mm dia	m	1 000		
		.06 400 mm dia	m	1 000		
		.07 500 mm dia	m	1 000		
		.08 630 mm dia	m	500		
		.04 PN 16 PVC –O 500 pipes, SANS / ISO 16422: 2008				
	Li	.01 110 mm dia	m	50		
	Li	.02 160 mm dia	m	50		
	Li	.03 200 mm dia	m	50		
		.04 250 mm dia	m	50		
		.05 315 mm dia	m	50		
		.06 400 mm dia	m	50		
		.07 500 mm dia	m	50		
		.08 630 mm dia	m	50		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.05 Medium Galvanised mild steel, medium class pipes, including all fittings and couplings (wrapped with grease tape and then covered with PVC tape): (LI)				
	Li	.05 80 mm dia	m	20		
	Li	.06 100 mm dia	m	10		
	Li	.07 150 mm dia	m	10		
	Li	.08 200 mm dia	m	10		
402.02		Extra over item 402.01 for providing and installing fittings, valves and specials:				
		.01 uPVC 90° Bends (Class 16):				
		.01 110 mm dia	No	25		
		.02 160 mm dia	No	25		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.02 uPVC 45° Bends (Class 16):				
		.01 110 mm dia	No	60		
		.02 160 mm dia	No	60		
		.03 200 mm dia	No	15		
		.04 250 mm dia	No	15		
		.03 uPVC 22½° Bends (Class 16):				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.04 uPVC 11¼° Bends (Class 16):				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 Mild Steel 90° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.06 Mild Steel 45° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.07 Mild Steel 22½° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.08 Mild Steel 11¼° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.09 GMS pipes - 90° Bends, wrapped with grease tape and then covered with PVC tape:				
		.01 80 mm dia	No	10		
		.02 100 mm dia	No	10		
		.03 150 mm dia	No	10		
		.04 200 mm dia	No	10		
		.10 Mild Steel 90° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	5		
		.07 400 mm dia	No	5		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.11 Mild Steel 45° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	10		
		.06 355 mm dia	No	10		
		.07 400 mm dia	No	10		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
		.12 Mild Steel 22.5° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	10		
		.06 355 mm dia	No	10		
		.07 400 mm dia	No	10		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
		.13 Mild Steel 11.25° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	10		
		.06 355 mm dia	No	10		
		.07 400 mm dia	No	10		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
		.14 Cast iron end caps for uPVC pipes:				
		.01 110 mm dia	No	15		
		.02 160 mm dia	No	15		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.15 Flanged steel end caps (including corrosion protection as specified) drilled in accordance with SABS 1123 Table 16				
		(epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	5		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.16 Cast iron or steel flanged reducers:				
		(epoxy powder coated - refer to Series 401.05):				
		.01 160 x 110 mm	No	40		
		.02 200 x 110 mm	No	20		
		.03 200 x 160 mm	No	10		
		.04 250 x 110 mm	No	10		
		.05 250 x 160 mm	No	10		
		.06 250 x 200 mm	No	10		
		.07 315 x 200 mm	No	10		
		.08 315 x 250 mm	No	5		
		.09 355 x 315 mm	No	5		
		.10 400 x 355 mm	No	2		
		.11 500 x 400 mm	No	2		
		.12 630 x 400 mm	No	2		
		.13 630 x 500 mm	No	2		
		.17 Cast iron flange adaptor for uPVC pipes, drilled in accordance with SABS 1123 Table 16:				
		.01 110 mm dia	No	200		
		.02 160 mm dia	No	100		
		.03 200 mm dia	No	20		
		.04 250 mm dia	No	20		
		.05 315 mm dia	No	50		
		.18 Steel or cast iron flange adaptor for uPVC pipes, drilled in accordance with SABS 1123 Table 16:				
		(epoxy powder coated - refer to Series 401.05):				
		.01 315 mm dia	No	40		
		.02 355 mm dia	No	10		
		.03 400 mm dia	No	10		
		.04 500 mm dia	No	10		
		.05 630 mm dia	No	10		
		.19 Cast Iron / Plastic saddles				
		.01 110 x 40 mm	No	1000		
		.02 160 x 40 mm	No	500		
		.03 200 x 40 mm	No	50		
		.04 250 x 40 mm	No	50		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.20 Mild steel saddles				
		(epoxy powder coated - refer to Series 401.05):				
		.01 315 x 40 mm	No	5		
		.02 355 x 40 mm	No	5		
		.03 400 x 40 mm	No	5		
		.21 Cast iron reducing Tees for uPVC pipes:				
		.01 160 x 110 mm	No	10		
		.02 200 x 110 mm	No	5		
		.03 200 x 160 mm	No	5		
		.04 250 x 110 mm	No	5		
		.05 250 x 160 mm	No	5		
		.06 250 x 200 mm	No	5		
		.22 Flanged Cast iron reducing Tees:				
		.01 160 x 110 mm	No	30		
		.02 200 x 110 mm	No	20		
		.03 200 x 160 mm	No	10		
		.04 250 x 110 mm	No	10		
		.05 250 x 160 mm	No	10		
		.06 250 x 200 mm	No	10		
		.23 Flanged steel reducing Tees, flange drilled to				
		SABS 1123 Table 1600/3 (epoxy powder coated - refer to Series 401.05):				
		.01 160 x 110 mm	No	50		
		.02 200 x 110 mm	No	30		
		.03 200 x 160 mm	No	25		
		.04 250 x 110 mm	No	25		
		.05 250 x 160 mm	No	25		
		.06 250 x 200 mm	No	10		
		.07 315 x 250mm	No	5		
		.08 315 x 200 mm	No	5		
		.09 355 x 315mm	No	5		
		.10 355 x 250 mm	No	5		
		.11 355 x 200 mm	No	5		
		.12 400 x 200mm	No	5		
		.13 400 x 315 mm	No	5		
		.14 400 x 355 mm	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.24 Cast iron equal Tees for uPVC pipes:				
		.01 110 mm dia	No	50		
		.02 160 mm dia	No	50		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 315 mm dia	No	10		
		.25 Flanged steel equal Tees drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	10		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.26 Cast iron hydrant Tees:				
		.01 110 mm dia	No	80		
		.02 160 mm dia	No	80		
		.03 200 mm dia	No	20		
		.04 250 mm dia	No	20		
		.27 Steel flange hydrant Tees drilled in accordance with SABS 1123 Table 16(epoxy powder coated - refer to Series 401.05):				
		.01 110mm dia	No	25		
		.02 160 mm dia	No	25		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	5		
		.07 400 mm dia	No	5		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
		.09 630 mm dia	No	5		
		.28 Cast iron scour Tees:				
		.01 110 mm dia	No	10		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.29 Galvanised screwed flanges drilled in accordance with SABS 1123 Table 16				
		.01 80 mm dia	No	20		
		.02 100 mm dia	No	40		
		.03 150 mm dia	No	40		
		.04 200 mm dia	No	20		
		.30 GMS Nipples				
		.01 80mm	No	20		
		.02 100mm	No	40		
		.03 150mm	No	40		
		.04 200mm	No	20		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.31 GMS Equal Tee's				
		.01 80mm	No	10		
		.02 100mm	No	10		
		.03 150mm	No	10		
		.32 GMS Reducing Tees				
		.01 160mm - 100mm	No	10		
		.02 100mm - 80mm	No	10		
		.33 Adopter Couplings (Range couplings)				
		.01 108 - 118mm	No	5		
		.02 109 - 128mm	No	10		
		.03 159 - 170mm	No	10		
		.04 159 - 182mm	No	10		
		.05 190 - 205mm	No	10		
		.06 239 - 250mm	No	5		
		.07 250 - 267mm	No	5		
		.08 315 - 328mm	No	10		
		.09 350 - 360mm	No	5		
		.10 396 - 406mm	No	5		
		.11 500 - 510mm	No	5		
		.12 628 - 650mm	No	5		
		.34 GMS Sockets				
		.01 80mm	No	20		
		.02 100mm	No	40		
		.03 150mm	No	40		
		.35 GMS Weld-on Flanges - Class 16				
		.01 100mm	No	40		
		.02 150mm	No	40		
		.03 200mm	No	20		
		.04 250mm	No	20		
		.05 315mm	No	10		
		.06 355mm	No	10		
		.07 410mm	No	10		
		.36 Flexible flange adaptor with extended barrel length (epoxy powder coated - refer to Series 401.05):				
		.01 109 - 128mm	No	5		
		.02 159 - 182mm	No	5		
		.03 190 - 205mm	No	5		
		.04 239 - 250mm	No	5		
		.05 315 - 328mm	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.37 Long barrel Adaptor Couplings (Range coupling, epoxy powder coated - refer to Series 401.05):				
		.01 88 - 103mm	No	5		
		.02 109 - 128mm	No	10		
		.03 159 - 182mm	No	10		
		.04 192 - 210mm	No	10		
		.05 250 - 267mm	No	5		
		.06 315 - 332mm	No	5		
		.38 Stainless steel clamp with a tapping outlet to be used as a saddles				
		.01 110 x 40 mm	No	30		
		.02 160 x 40 mm	No	30		
		.03 200 x 40 mm	No	10		
		.04 250 x 40 mm	No	10		
		.05 315 x 40 mm	No	10		
		.06 355 x 40 mm	No	10		
		.39 Double flanged, anti clockwise closing "RSV"(Class 16) capped top valves drilled in accordance with SABS 1123 Table 16:				
		.01 80 mm	No	20		
		.02 100 mm	No	60		
		.03 150 mm	No	60		
		.04 200 mm	No	20		
		.05 250 mm	No	20		
		.06 300 mm	No	20		
		.07 350 mm	No	5		
		.08 400 mm	No	5		
		.09 500 mm	No	5		
		.40 Restrained Quick flange adaptor for HDPE pipe Epoxy coated complete with gripper ring:				
		.01 110 mm	No	5		
		.02 160 mm	No	5		
		.03 200 mm	No	5		
		.04 250 mm	No	5		
		.05 315 mm	No	5		
		.41 Restrained Quick flange adaptor for PVC pipe Epoxy coated:				
		.01 110 mm	No	20		
		.02 160 mm	No	20		
		.03 200 mm	No	10		
		.04 250 mm	No	10		
		.05 315 mm	No	10		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.42 Double acting air valve with variable orifice 16 bar flanged				
		.01 25 mm	No	2		
		.02 50 mm	No	2		
		.03 80 mm	No	2		
B402.02		.43 Custom made Steel special to be measured, manufactured and installed				
		(epoxy powder coated - refer to Series 401.05):	each	Per approved quotation		
		.44 Electrofusion Coupler PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.45 Electrofusion Elbow 90° PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.46 Electrofusion Elbow 45° PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.47 Electrofusion Equal Tee PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.48 Electrofusion Reduced Tee PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 160 X 110mm dia	No	1		
		.02 200 X 110mm dia	No	1		
		.03 200 X 160mm dia	No	1		
		.04 250 X 110mm dia	No	1		
		.05 110 X 90mm dia	No	1		
		.06 160 X 90mm dia	No	1		
		.07 200 X 90mm dia	No	1		
		.08 250 X 160mm dia	No	1		
		.08 250 X 160mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.49 Elbow 90° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.50 Elbow 45° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.51 Elbow 30° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.52 Elbow between 11 and 15° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.53 Equal Tee Spigot fittings, per moulded and reinforced for butt fusion (long spigot) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.54 Reduced Tee Long Spigot fittings, per moulded and reinforced for butt fusion (long spigot) Installed in accordance with ISO21307 – 2011				
		.01 160 X 110mm dia	No	1		
		.02 200 X 110mm dia	No	1		
		.03 200 X 160mm dia	No	1		
		.04 250 X 110mm dia	No	1		
		.05 110 X 90mm dia	No	1		
		.06 160 X 90mm dia	No	1		
		.07 200 X 90mm dia	No	1		
		.08 250 X 160mm dia	No	1		
		.09 315 X 110mm dia	No	1		
		.10 315 X 160mm dia	No	1		
		.11 315 X 250mm dia	No	1		
		.55 Electrofusion tapping saddle kit including coupler in outlet, PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 x 40mm dia outlet	No	1		
		.02 160 x 40mm dia outlet	No	1		
		.03 200 x 40mm dia outlet	No	1		
		.56 Electrofusion branch fitting, PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 200 x 110mm dia outlet	No	1		
		.02 160 x 110mm dia outlet	No	1		
		.03 200 x 160mm dia outlet	No	1		
		.04 250 x 110mm dia outlet	No	1		
		.05 250 x 160mm dia outlet	No	1		
		.57 Flange adaptor, PE100 SDR11 (ISO S5), including gasket and flange (table 16). Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
402.04		Providing thrust blocks using class 15/19 concrete As per drawing 7515-W108	m³	200		
402.05		Supplying and placing unscreened selected backfill material under, alongside and up to 200 mm above pipe barrel using:				
	Li	.01 Excavated material (L1)	m³	8 000		
	Li	.02 Imported material from sources provided by the Employer (L1)	m³	1 000		
	Li	.03 Imported material from sources provided by the Contractor (L1)	m³	6 000		
402.06	Li	Extra over item 402.05 for screening excavated material for selected backfill (L1)	m³	8 000		
402.07		Valve chambers complete (including valves and all fittings, labour and excavation and backfilling):				
	SC	.01 Supply and installation of Cast Iron / PVC Valve box complete for "RSV" valves as shown drawing 7515-W103 (type A) Complete with all fittings, valve and backfilling/excavation)	No	100		
	SC	.02 Supply and installation of Precast concrete valve box according to drawing 7515-W103 (type B) Complete with all fittings	No	250		
	SC	.03 Supply and installation new air valve chamber according to drawing 7515-W107 (Complete Air valve chamber with all fittings and 1500ø concrete ring) Rate shall include excavation, backfilling and labour.	No	5		
		.04 Construction of a reinforced concrete valve chamber, with dimensions of 4.0m x 8.0m x 2.4m deep according to drawing 7515-VC106A and (including all material, labour and excavations complete)	No	4		
		.05 Construction of a reinforced concrete valve chamber, with dimensions of 6.0m x 6.0m x 3.5m deep according to drawing 7515-VC107A and 7515-VC107B (including all material, fittings, valves, labour and excavations complete)	No	4		
		.06 Construction of a reinforced concrete valve chamber, with dimensions of 3.0m x 6.5m x 2.4m deep according to drawing 7515-VC113A and deep (including all material, valves and fittings, labour and excavations/backfilling complete)	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.09 Construction of a reinforced concrete valve chamber with dimensions of 6 x 12 x 3.5m deep according to drawing 7515-VC104A and 7515-VC104B(including all material, valves, fittings, labour and excavations complete)	No	1		
402.08	Li	Installation of maker blocks	No	50		
402.09		Installation of hydrants complete as per drawing 7515-W106 (Complete with all fittings)	No	300		
402.10		Sterilizing of pipelines				
		.01 110 mm dia	m	12 050		
		.02 160 mm dia	m	12 050		
		.03 200 mm dia	m	5 050		
		.04 250 mm dia	m	6 050		
		.05 315 mm dia	m	3 550		
		.06 355 mm dia	m	1 000		
		.07 400 mm dia	m	1 550		
		.08 500 mm dia	m	500		
		.09 630 mm dia	m	500		
B402.23		Supply and installation of PRV and all fittings in PRV chamber complete as per drawing:				
		.01 Supply and installation fittings, pipe work and footings for a pressure reducing valve chamber at Soshanguve GG according to drawing W-0131-SOSH-GG-10-0005-R00-C (including all material and labour)	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.12	Li	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail drawing 7515-W206 and 7515-W207 :				
		.01 Short single erf connection				
		.01 15 mm dia watermeter, 40 mm pipe size	No	300		
		.02 20 mm dia watermeter, 40 mm pipe size	No	50		
		.03 25 mm dia watermeter, 40 mm pipe size	No	20		
		.04 40 mm dia watermeter, 50 mm pipe size	No	20		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	10		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.02 Short double erf connections				
		.01 15 mm dia watermeter, 40 mm pipe size	No	100		
		.02 20 mm dia watermeter, 40 mm pipe size	No	20		
		.03 25 mm dia watermeter, 40 mm pipe size	No	10		
		.04 40 mm dia watermeter, 50 mm pipe size	No	10		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	5		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.03 Long single erf connection				
		.01 15 mm dia watermeter, 40 mm pipe size	No	300		
		.02 20 mm dia watermeter, 40 mm pipe size	No	50		
		.03 25 mm dia watermeter, 40 mm pipe size	No	20		
		.04 40 mm dia watermeter, 50 mm pipe size	No	20		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	10		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.04 Long double erf connections				
		.01 15 mm dia watermeter, 40 mm pipe size	No	100		
		.02 20 mm dia watermeter, 40 mm pipe size	No	20		
		.03 25 mm dia watermeter, 40 mm pipe size	No	10		
		.04 40 mm dia watermeter, 50 mm pipe size	No	10		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	5		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
B402.13		Horizontal drilling:				
		(in any soil condition, excluding of rock)				
		.01 10 mm - 50 mm dia pipe	m	20		
		.02 51 mm - 80 mm dia pipe	m	20		
		.03 81 mm - 100 mm dia pipe	m	50		
		.04 101 mm - 150 mm dia pipe	m	3 000		
		.05 151 mm - 200 mm dia pipe	m	2 000		
		.06 201 mm - 250 mm dia pipe	m	200		
		.07 251 mm - 350 mm dia pipe	m	200		
		.08 351 mm - 450 mm dia pipe	m	100		
		.09 451 mm - 550 mm dia pipe	m	100		
		.10 551 mm - 650 mm dia pipe	m	100		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.14		Connection to existing PVC / AC / HDPE water reticulation pipes irrespective of depth	No	200		
B402.15	Li	Launching and exit pits	no	100		
B402.16	Li	Excavate and Disconnect Existing Services	no	100		
B402.17		Pipe Bursting of AC or GRP pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	2 000		
		.02 160 mm dia	m	2 000		
		.03 200 mm dia	m	500		
		.04 250 mm dia	m	500		
		.05 315 mm dia	m	500		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	m	100		
B402.18		Pipe Bursting of Steel Pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	1 000		
		.02 160 mm dia	m	1 000		
		.03 200 mm dia	m	100		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	m	100		
B402.19		Pipe Bursting of PVC pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	500		
		.02 160 mm dia	m	500		
		.03 200 mm dia	m	100		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	m	100		
TOTAL CARRIED TO NEXT PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.20		Supply and installation of flanged adapters by butt welding for the following HDPE pipes: (SABS 1123 Table 16)				
		.01 110 mm dia	no	20		
		.02 160 mm dia	no	20		
		.03 200 mm dia	no	10		
		.04 250 mm dia	no	10		
		.05 315 mm dia	no	10		
		.06 355 mm dia	no	10		
		.07 400 mm dia	no	10		
		.08 500 mm dia	no	10		
		.09 630 mm dia	no	10		
B402.21	SC/Li	Supply and installation of temporary HDPE pipes (to ensure permanent water supply to all users):				
		.01 63mm	no	500		
		.02 110mm	no	2 000		
		.03 160mm	no	500		
B402.22	Li	Remove existing t-pieces, couplings, saddles and bends on existing pipes before pipe bursting	no	100		
TOTAL CARRIED TO SUMMARY PAGE						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 4: WATER RETICULATION AND WATER MAINS				
		SECTION 403: TESTING				
403.01		Hydraulic field-testing of pipelines				
		.01 110 mm dia	m	12 050		
		.02 160 mm dia	m	12 050		
		.03 200 mm dia	m	4 050		
		.04 250 mm dia	m	4 050		
		.05 315 mm dia	m	3 050		
		.06 355 mm dia	m	1 000		
		.07 400 mm dia	m	2 050		
		.08 450 mm dia	m	500		
		.09 500 mm dia	m	500		
		.10 630 mm dia	m	550		
		TOTAL CARRIED TO SUMMARY PAGE				

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 5 : DRAINAGE AND EROSION PROTECTION				
		SECTION 503 : KERBING AND CHANNELLING				
B503.01		Concrete kerbing (Refer to drawing STD007 1 of 2) "L"				
		.01 Supply and installation of the following Kerbings: (Drawing STD007 1 of 2)				
	SC	.01 Semi-vertical kerb with channel	m	50		
	SC	.02 Semi-vertical kerb on curved sections	m	50		
	SC	.03 Semi-vertical kerb along straight sections	m	100		
		.02 Construction of Slope Kerbings in position (Drawing STD007 1 of 2)				
	SC	.01 300 sloping kerb	m	100		
	SC	.02 400 sloping kerb	m	100		
TOTAL CARRIED TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 6: ROADS AND PARKING AREA				
		SECTION 609 : SEGMENTED PAVING				
B609.01	SC/Li	CONSTRUCTION OF SEGMENTAL BLOCK PAVING (Refer to drawing STD008 1 of 1) "LI"				
	SC/Li	.02 Repairs of segmented paving (the rate will include the mark-up-, storage-, handling-, and transport cost to the site of works)	m ²	1500		
		.03 Supply of segmental block paving (Reimbursement shall be for the actual purchase cost of the paving blocks plus 10%)	Per 1000			
				Rate as per approved Tax Invoice		
609,03		The construction of edge restraints with				
	SC/Li	.02 Construction of edge restraint in position	m	400		
CARRIED FORWARD TO SUMMARY						

Area A: Region 1 and 2

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 6: ROADS AND PARKING AREA				
		SECTION 610 : CONCRETE PAVEMENTS				
B1		<u>CONSTRUCTION OF CONCRETE PAVING (Refer to drawing STD008 1 of 1)</u>				
B610.01	SC/Li	Concrete pavement				
		.01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²	1500		
B610.08	Li	Imprint Concrete pavement				
		.01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²	500		
CARRIED FORWARD TO SUMMARY						

Area A: Region 1 and 2

TOTAL SUMMARY AREA A (REGION 1 AND 2)

Description	Amount (excluding VAT)
SECTION 001 : GENERAL REQUIREMENTS AND CHARGES	
SECTION 101 : SITE CLEARING AND GRUBBING	
SECTION 102 : ACCOMODATION OF TRAFFIC	
SECTION 104 : LANDSCAPING AND GRASSING	
SECTION 202 : TRENCHING	
SECTION 402 : CONSTRUCTION	
SECTION 403 : TESTING	
SECTION 503: KERBING AND CHANNELLING	
SECTION 609: SEGMENTED PAVING	
SECTION 610: CONCRETE PAVEMENTS	
TOTAL SCHEDULE OF QUANTITIES	
Add 10% of Total Schedule of Quantities for Contingencies	
TENDER AMOUNT EXCLUDING VAT	
Value Added Tax	
TENDER AMOUNT INCLUDING VAT	

Take note that the rates are fixed but the quantities will vary subject to the scope of work per project.
Take note that this is a rate only tender and the rates will be approved.

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		AREA-B: REGION 3				
		SERIES 0 : GENERAL				
		SECTION 001 : GENERAL REQUIREMENTS AND CHARGES				
001.01		Preliminary and general charges				
		.01 Fixed charges	month/per project	72		
002.01		Sevices for office and laboratories	Lump Sum/ per project	10		
002.02		Treatment and maintenance of areas surrounding offices and laboratories	Lump Sum/ per project	10		
B001.01		.02 Time-related charges	month/per project	72		
B001.01		.03 The Contractor's establishment on site	no	8		
B001.02		Location of existing services by locaters (detecting machine)	m	40 000		
B001.03	Li	Excavate by hand to expose existing services and backfill (LI)	per inspection hole	3 000		
001.04		Compliance with the Occupational Health and Safety Act and applicable regulations				
		.01 Provision of a Health and Safety plan	lump Sum/per project	4		
B001.04		.02 Provision of a Health and Safety file	lump Sum/per project	4		
B001.04		.03 Provision of construction supervisors	per month/ per project	72		
B001.04		.04 Provision of a safety officer (fullpart time)	per month/ per project	72		
B001.04		.08 Implementation of OHS plan	per month/ per project	72		
B001.05		Community Liaison Officer (CLO)	per month/ per project	72	R14 653,67	R1 055 064,24
B001.09	SC	Appointment of Local Security Company	Per month/ per site	72		
001.10		Day works				
		.01 Provision of skilled, semi skilled and unskilled for day works				
		.01 Qualified Artisan	hr	Rate only		
		.02 Semi-skilled labourer	hr	Rate only		
		.03 Labourer	hr	Rate only		
		.02 Plant Hire (use of plant already established on site for day works)				
		.01 Tipper Truck (10 ton)	hr	Rate only		
		.02 Flatbed truck (5 ton)	hr	Rate only		
		.03 Light delivery vehicle	hr	Rate only		
		.04 Water Tanker (large)	hr	Rate only		
		.05 Rammer	hr	Rate only		
		.06 TLB	hr	Rate only		
		.07 Butt welding machine	hr	Rate only		
B001.11	SC/Li	Print, supply, distributions and removal of water interruptions notice color printed				
		.01 Color printed on correx	m²	500		
		.02 A5 flyers	each	5000		
TOTAL CARRIED TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 101: SITE CLEARING AND GRUBBING				
101.01		Clearing and grubbing				
	SC/Li	.01 Areas	m ²	100		
B101.01		.02 Strips 3m wide	m	5 000		
101.02		Cutting and removing large trees with a girth:				
	SC/Li	.01 Exceeding 1m and up to and including 2m (LI)	No	5		
	SC/Li	.02 Exceeding 2m and up to and including 3m (LI)	No	5		
101.03		Grubbing and the removal of the stumps and roots of large trees with a girth:				
	SC/Li	.01 Exceeding 1m and up to and including 2m	No	5		
	SC/Li	.02 Exceeding 2m and up to and including 3m	No	5		
TOTAL CARRIED TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 102: ACCOMMODATION TRAFFIC				
102.10		Provision of temporary bridges for				
	SC	.01 Temporary fencing	m	200		
	SC	.02 Temporary gates	No	2		
102.12		Provision of temporary bridges for maintaining access to properties				
		.01 Temporary pedestrian bridges	No	5		
		.02 Temporary vehicular bridges	No	5		
102.13		Moving of temporary bridges to and their re-erection in entirely new positions				
		.01 Temporary pedestrian bridges	No	20		
		.02 Temporary vehicular bridges	No	20		
B102.14		Temporary traffic-control facilities				
	Li	.01 Flagmen	per month/ per project	72		
		.02 Portable STOP and GO signs	No	20		
		.03 Amber flicker lights	No	20		
		.04 Road signs, TR-series, 1200mm in diameter or 900 x 675mm if rectangular	No	50		
		.05 Road signs, TW-series, 1 524mm sides	No	50		
		.06 Road signs, TG-series	m ²	30		
		.07 Danger plates and delineators	No	50		
		.09 Traffic cones	lump sum / per project	6		
		.10 Plastic New Jersey Barrier	No	100		
TOTAL CARRIED TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 104: LANDSCAPING AND GRASSING				
104.01		Trimming				
		.01 Machine trimming	m ²	10 000		
B104.01	Li	.02 Hand trimming	m ²	30 000		
104.03		Preparing areas for grassing and ground covers				
		.02 Topsoiling on the Site with -				
		.01 topsoil obtained from the Site or borrow areas provided by Employer	m ³	50		
		.02 topsoil provided by the Contractor from other sources (including all haul)	m ³	2 100		
104.03		.05 Stockpiling of topsoil	m ³	2 100		
104.08		Extra work for landscaping	Prov Sum	1	R50 000,00	R50 000,00
TOTAL CARRIED TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 2: EARTHWORKS				
		SECTION 202: TRENCHING				
202.01		Trench excavations				
		.01 Up to 1,0 m wide				
		.01 up to 2,0 m deep	m ³	15 000		
		.02 over 2,0 m deep	m ³	2 000		
202.02		Extra over items 202.01, 202.03 and 202.04 for excavating in				
		.02 hard material	m ³	7 000		
B202.03		Excavations outside the normal trench profile	m ³	500		
202.04	Li	Hand excavations Extra-over item 202.01	m ³	7 000		
B202.17	Li	Hand excavation for trenches inside erven.				
		Trenches 500 mm wide and 600 mm deep.	m ³	500		
202.06	Li	The backfilling of trenches with material obtained from excavations (excluding backfill around the pipe barrel)	m ³	9 000		
B202.07		Extra over items 202.06 and 202.13 for using backfill material obtained				
		.01 from borrow areas	m ³	50		
		.02 from sources provided by Contractor	m ³	6 000		
B202.07		.03 G4 provided by Contractor	m ³	3 000		
202.08		Backfilling additional excavations in trench floor using:				
		.02 concrete aggregate, max size 38 mm	m ³	10		
202.10	SC/Li	Removal of spoil material -				
		.02 to dumping areas to be provided by the Contractor	m ³	10 000		
B202.11		Timbering and shoring left in excavations	m ³	50		
202.12		Extra over item 202.06 for additional compaction of back-fill to 93% of modified AASHTO density in road reserves	m ³	3 000		
202.13		Backfilling trenches with soilcrete under tar	m ³	50		
202.15		Reinstatement of bitumen surfaced roads	m ²	3 000		
B202.16		Cutting and removal of premix:				
		.01 Premix thickness up to 100 mm	m ²	3 000		
		.02 Premix thickness 101 mm up to 200 mm	m ²	500		
		.03 Premix thickness 201 mm up to 300 mm	m ²	50		
		.04 Premix thicker than 300 mm	m ²	50		
TOTAL CARRIED TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 4: WATER RETICULATION AND WATER MAINS				
		SECTION 402: CONSTRUCTION				
402.01		Supplying, laying and jointing of water pipes irrespective of depth:				
		.01 Class 12 uPVC pipes, SANBS 966: 1998 Part 1				
	Li	.01 110 mm dia	m	8 000		
	Li	.02 160 mm dia	m	6 000		
	Li	.03 200 mm dia	m	2 000		
		.04 250 mm dia	m	2 000		
		.05 315 mm dia	m	2 000		
		.06 355 mm dia	m	1 000		
		.07 400 mm dia	m	1 000		
		.08 450 mm dia	m	500		
		.09 500 mm dia	m	500		
		.02 SANBS / ISO 4427 PE100 HDPE pipes (including all fittings and couplings)				
	Li	.01 32 mm dia PN16	m	300		
	Li	.02 40 mm dia PN 16	m	300		
	Li	.03 50 mm dia PN16	m	400		
	Li	.04 63 mm dia PN 12.5	m	800		
	Li	.05 110 mm dia PN 12.5	m	9000		
	Li	.06 160 mm dia PN 12.5	m	4000		
	Li	.07 200 mm dia PN 12.5	m	1000		
		.08 250 mm dia PN 12.5	m	500		
		.09 315 mm dia PN 12.5	m	500		
		.10 355 mm dia PN 12.5	m	500		
		.11 400 mm dia PN 12.5	m	500		
		.12 500 mm dia PN 12.5	m	500		
		.13 630 mm dia PN 12.5	m	100		
		.03 PN 12.5 PVC –O 500 pipes, SANBS / ISO 16422: 2008				
	Li	.01 110 mm dia	m	50		
	Li	.02 160 mm dia	m	50		
	Li	.03 200 mm dia	m	50		
		.04 250 mm dia	m	50		
		.05 315 mm dia	m	50		
		.06 400 mm dia	m	50		
		.07 500 mm dia	m	50		
		.08 630 mm dia	m	50		
		.04 PN 16 PVC –O 500 pipes, SANBS / ISO 16422: 2008				
	Li	.01 110 mm dia	m	50		
	Li	.02 160 mm dia	m	50		
	Li	.03 200 mm dia	m	50		
		.04 250 mm dia	m	50		
		.05 315 mm dia	m	50		
		.06 400 mm dia	m	50		
		.07 500 mm dia	m	50		
		.08 630 mm dia	m	50		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.05 Medium Galvanised mild steel, medium class pipes, including all fittings and couplings (wrapped with grease tape and then covered with PVC tape): (LI)				
	Li	.05 80 mm dia	m	20		
	Li	.06 100 mm dia	m	10		
	Li	.07 150 mm dia	m	10		
	Li	.08 200 mm dia	m	10		
402.02		Extra over item 402.01 for providing and installing fittings, valves and specials:				
		.01 uPVC 90° Bends (Class 16):				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.02 uPVC 45° Bends (Class 16):				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.03 uPVC 22½° Bends (Class 16):				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.04 uPVC 11¼° Bends (Class 16):				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 Mild Steel 90° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	1		
		.02 355 mm dia	No	1		
		.03 400 mm dia	No	1		
		.04 500 mm dia	No	1		
		.05 630 mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.06 Mild Steel 45° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	1		
		.02 355 mm dia	No	1		
		.03 400 mm dia	No	1		
		.04 500 mm dia	No	1		
		.05 630 mm dia	No	1		
		.07 Mild Steel 22½° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	1		
		.02 355 mm dia	No	1		
		.03 400 mm dia	No	1		
		.04 500 mm dia	No	1		
		.05 630 mm dia	No	1		
		.08 Mild Steel 11¼° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	1		
		.02 355 mm dia	No	1		
		.03 400 mm dia	No	1		
		.04 500 mm dia	No	1		
		.05 630 mm dia	No	1		
		.09 GMS pipes - 90° Bends, wrapped with grease tape and then covered with PVC tape:				
		.01 80 mm dia	No	20		
		.02 100 mm dia	No	10		
		.03 150 mm dia	No	6		
		.04 200 mm dia	No	6		
		.10 Mild Steel 90° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.11 Mild Steel 45° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.12 Mild Steel 22.5° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.13 Mild Steel 11.25° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.14 Cast iron end caps for uPVC pipes:				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.15 Flanged steel end caps (including corrosion protection as specified) drilled in accordance with SABS 1123 Table 16				
		(epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	5		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.16 Cast iron or steel flanged reducers:				
		(epoxy powder coated - refer to Series 401.05):				
		.01 160 x 110 mm	No	40		
		.02 200 x 110 mm	No	20		
		.03 200 x 160 mm	No	20		
		.04 250 x 110 mm	No	10		
		.05 250 x 160 mm	No	10		
		.06 250 x 200 mm	No	10		
		.07 315 x 200 mm	No	10		
		.08 315 x 250 mm	No	5		
		.09 355 x 315 mm	No	5		
		.10 400 x 355 mm	No	2		
		.11 500 x 400 mm	No	2		
		.12 630 x 400 mm	No	2		
		.13 630 x 500 mm	No	2		
		.17 Cast iron flange adaptor for uPVC pipes, drilled in accordance with SABS 1123 Table 16:				
		.01 110 mm dia	No	10		
		.02 160 mm dia	No	6		
		.03 200 mm dia	No	2		
		.04 250 mm dia	No	2		
		.05 315 mm dia	No	2		
		.18 Steel or cast iron flange adaptor for uPVC pipes, drilled in accordance with SABS 1123 Table 16:				
		(epoxy powder coated - refer to Series 401.05):				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.19 Cast Iron / Plastic saddles				
		.01 110 x 40 mm	No	10		
		.02 160 x 40 mm	No	10		
		.03 200 x 40 mm	No	5		
		.04 250 x 40 mm	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.20 Mild steel saddles				
		(epoxy powder coated - refer to Series 401.05):				
		.01 315 x 40 mm	No	2		
		.02 355 x 40 mm	No	2		
		.03 400 x 40 mm	No	2		
		.21 Cast iron reducing Tees for uPVC pipes:				
		.01 160 x 110 mm	No	2		
		.02 200 x 110 mm	No	2		
		.03 200 x 160 mm	No	2		
		.04 250 x 110 mm	No	2		
		.05 250 x 160 mm	No	2		
		.06 250 x 200 mm	No	2		
		.22 Flanged Cast iron reducing Tees:				
		.01 160 x 110 mm	No	2		
		.02 200 x 110 mm	No	2		
		.03 200 x 160 mm	No	2		
		.04 250 x 110 mm	No	2		
		.05 250 x 160 mm	No	2		
		.06 250 x 200 mm	No	2		
		.23 Flanged steel reducing Tees, flange drilled to				
		SABS 1123 Table 1600/3 (epoxy powder coated - refer to Series 401.05):				
		.01 160 x 110 mm	No	10		
		.02 200 x 110 mm	No	10		
		.03 200 x 160 mm	No	10		
		.04 250 x 110 mm	No	10		
		.05 250 x 160 mm	No	10		
		.06 250 x 200 mm	No	10		
		.07 315 x 250mm	No	5		
		.08 315 x 200 mm	No	5		
		.09 355 x 315mm	No	2		
		.10 355 x 250 mm	No	2		
		.11 355 x 200 mm	No	2		
		.12 400 x 200mm	No	2		
		.13 400 x 315 mm	No	2		
		.14 400 x 355 mm	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.24 Cast iron equal Tees for uPVC pipes:				
		.01 110 mm dia	No	2		
		.02 160 mm dia	No	2		
		.03 200 mm dia	No	2		
		.04 250 mm dia	No	2		
		.05 315 mm dia	No	2		
		.25 Flanged steel equal Tees drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.26 Cast iron hydrant Tees:				
		.01 110 mm dia	No	2		
		.02 160 mm dia	No	2		
		.03 200 mm dia	No	2		
		.04 250 mm dia	No	2		
		.27 Steel flange hydrant Tees drilled in accordance with SABS 1123 Table 16(epoxy powder coated - refer to Series 401.05):				
		.01 110mm dia	No	20		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	5		
		.07 400 mm dia	No	5		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
		.09 630 mm dia	No	5		
		.28 Cast iron scour Tees:				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.29 Galvanised screwed flanges drilled in accordance with SABS 1123 Table 16				
		.01 80 mm dia	No	20		
		.02 100 mm dia	No	20		
		.03 150 mm dia	No	20		
		.04 200 mm dia	No	20		
		.30 GMS Nipples				
		.01 80mm	No	20		
		.02 100mm	No	20		
		.03 150mm	No	20		
		.04 200mm	No	20		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.31 GMS Equal Tee's				
		.01 80mm	No	5		
		.02 100mm	No	5		
		.03 150mm	No	5		
		.32 GMS Reducing Tees				
		.01 160mm - 100mm	No	2		
		.02 100mm - 80mm	No	2		
		.33 Adopter Couplings (Range couplings)				
		.01 108 - 118mm	No	5		
		.02 109 - 128mm	No	10		
		.03 159 - 170mm	No	10		
		.04 159 - 182mm	No	10		
		.05 190 - 205mm	No	10		
		.06 239 - 250mm	No	5		
		.07 250 - 267mm	No	5		
		.08 315 - 328mm	No	5		
		.09 350 - 360mm	No	5		
		.10 396 - 406mm	No	5		
		.11 500 - 510mm	No	5		
		.12 628 - 650mm	No	5		
		.34 GMS Sockets				
		.01 80mm	No	20		
		.02 100mm	No	20		
		.03 150mm	No	20		
		.35 GMS Weld-on Flanges - Class 16				
		.01 100mm	No	20		
		.02 150mm	No	20		
		.03 200mm	No	10		
		.04 250mm	No	10		
		.05 315mm	No	10		
		.06 355mm	No	10		
		.07 410mm	No	10		
		.36 Flexible flange adaptor with extended barrel length (epoxy powder coated - refer to Series 401.05):				
		.01 109 - 128mm	No	5		
		.02 159 - 182mm	No	5		
		.03 190 - 205mm	No	5		
		.04 239 - 250mm	No	5		
		.05 315 - 328mm	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.37 Long barrel Adaptor Couplings (Range coupling, epoxy powder coated - refer to Series 401.05):				
		.01 88 - 103mm	No	5		
		.02 109 - 128mm	No	5		
		.03 159 - 182mm	No	5		
		.04 192 - 210mm	No	5		
		.05 250 - 267mm	No	5		
		.06 315 - 332mm	No	5		
		.38 Stainless steel clamp with a tapping outlet to be used as a saddles				
		.01 110 x 40 mm	No	20		
		.02 160 x 40 mm	No	30		
		.03 200 x 40 mm	No	10		
		.04 250 x 40 mm	No	10		
		.05 315 x 40 mm	No	10		
		.06 355 x 40 mm	No	10		
		.39 Double flanged, anti clockwise closing "RSV"(Class 16) capped top valves drilled in accordance with SABS 1123 Table 16:				
		.01 80 mm	No	20		
		.02 100 mm	No	40		
		.03 150 mm	No	30		
		.04 200 mm	No	10		
		.05 250 mm	No	10		
		.06 300 mm	No	10		
		.07 350 mm	No	5		
		.08 400 mm	No	5		
		.09 500 mm	No	5		
		.40 Restrained Quick flange adaptor for HDPE pipe Epoxy coated complete with gripper ring:				
		.01 110 mm	No	10		
		.02 160 mm	No	10		
		.03 200 mm	No	10		
		.04 250 mm	No	5		
		.05 315 mm	No	5		
		.41 Restrained Quick flange adaptor for PVC pipe Epoxy coated:				
		.01 110 mm	No	2		
		.02 160 mm	No	2		
		.03 200 mm	No	2		
		.04 250 mm	No	2		
		.05 315 mm	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.42 Double acting air valve with variable orifice 16 bar flanged				
		.01 25 mm	No	2		
		.02 50 mm	No	2		
		.03 80 mm	No	2		
B402.02		.43 Custom made Steel special to be measured, manufactured and installed				
		(epoxy powder coated - refer to Series 401.05):	each	Per approved quotation		
		.44 Electrofusion Coupler PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	40		
		.02 160 mm dia	No	30		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 315 mm dia	No	10		
		.06 355 mm dia	No	10		
		.07 400 mm dia	No	10		
		.08 500 mm dia	No	10		
		.09 630 mm dia	No	10		
		.45 Electrofusion Elbow 90° PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	15		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.46 Electrofusion Elbow 45° PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	40		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.47 Electrofusion Equal Tee PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	40		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.48 Electrofusion Reduced Tee PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 160 X 110mm dia	No	20		
		.02 200 X 110mm dia	No	5		
		.03 200 X 160mm dia	No	10		
		.04 250 X 110mm dia	No	5		
		.05 110 X 90mm dia	No	5		
		.06 160 X 90mm dia	No	5		
		.07 200 X 90mm dia	No	5		
		.08 250 X 160mm dia	No	5		
		.08 250 X 160mm dia	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.49 Elbow 90° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.50 Elbow 45° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	30		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.51 Elbow 30° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.52 Elbow between 11 and 15° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	15		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.53 Equal Tee Spigot fittings, per moulded and reinforced for butt fusion (long spigot) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	15		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.54 Reduced Tee Long Spigot fittings, per moulded and reinforced for butt fusion (long spigot) Installed in accordance with ISO21307 – 2011				
		.01 160 X 110mm dia	No	15		
		.02 200 X 110mm dia	No	10		
		.03 200 X 160mm dia	No	10		
		.04 250 X 110mm dia	No	5		
		.05 110 X 90mm dia	No	20		
		.06 160 X 90mm dia	No	20		
		.07 200 X 90mm dia	No	10		
		.08 250 X 160mm dia	No	10		
		.09 315 X 110mm dia	No	5		
		.10 315 X 160mm dia	No	5		
		.11 315 X 250mm dia	No	5		
		.55 Electrofusion tapping saddle kit including coupler in outlet, PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 x 40mm dia outlet	No			
		.02 160 x 40mm dia outlet	No			
		.03 200 x 40mm dia outlet	No			
		.56 Electrofusion branch fitting, PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 200 x 110mm dia outlet	No	10		
		.02 160 x 110mm dia outlet	No	15		
		.03 200 x 160mm dia outlet	No	5		
		.04 250 x 110mm dia outlet	No	5		
		.05 250 x 160mm dia outlet	No	5		
		.57 Flange adaptor, PE100 SDR11 (ISO S5), including gasket and flange (table 16). Installed in accordance with SABS 10268				
		.01 110 mm dia	No	60		
		.02 160 mm dia	No	40		
		.03 200 mm dia	No	20		
		.04 250 mm dia	No	20		
		.05 315 mm dia	No	20		
		.06 355 mm dia	No	10		
		.07 400 mm dia	No	10		
		.08 500 mm dia	No	10		
		.09 630 mm dia	No	10		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
402.04		Providing thrust blocks using class 15/19 concrete As per drawing 7515-W108	m³	150		
402.05		Supplying and placing unscreened selected backfill material under, alongside and up to 200 mm above pipe barrel using:				
	Li	.01 Excavated material (L1)	m³	3 000		
	Li	.02 Imported material from sources provided by the Employer (L1)	m³	50		
	Li	.03 Imported material from sources provided by the Contractor (L1)	m³	5 000		
402.06	Li	Extra over item 402.05 for screening excavated material for selected backfill (L1)	m³	3 000		
402.07		Valve chambers complete (including valves and all fittings, labour and excavation and backfilling):				
		.01 Supply and installation of Cast Iron / PVC Valve box complete for "RSV" valves as shown drawing 7515-W103 (type A) Complete with all fittings, valve and backfilling/excavation)	No	30		
		.02 Supply and installation of Precast concrete valve box according to drawing 7515-W103 (type B) Complete with all fittings	No	60		
		.03 Supply and installation new air valve chamber according to drawing 7515-W107 (Complete Air valve chamber with all fittings and 1500ø concrete ring) Rate shall include excavation, backfilling and labour.	No	1		
		.04 Construction of a reinforced concrete valve chamber, with dimensions of 4.0m x 8.0m x 2.4m deep according to drawing 7515-VC106A and (including all material, labour and excavations complete)	No	1		
		.05 Construction of a reinforced concrete valve chamber, with dimensions of 6.0m x 6.0m x 3.5m deep according to drawing 7515-VC107A and 7515-VC107B (including all material, fittings, valves, labour and excavations complete)	No	1		
		.06 Construction of a reinforced concrete valve chamber, with dimensions of 3.0m x 6.5m x 2.4m deep according to drawing 7515-VC113A and deep (including all material, valves and fittings, labour and excavations/backfilling complete)	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.09 Construction of a reinforced concrete valve chamber with dimensions of 6 x 12 x 3.5m deep according to drawing 7515-VC104A and 7515-VC104B(including all material, valves, fittings, labour and excavations complete)	No	1		
402.08	Li	Installation of maker blocks	No	10		
402.09		Installation of hydrants complete as per drawing 7515-W106 (Complete with all fittings)	No	80		
402.10		Sterilizing of pipelines				
		.01 110 mm dia	m	17 100		
		.02 160 mm dia	m	10 100		
		.03 200 mm dia	m	3 100		
		.04 250 mm dia	m	2 600		
		.05 315 mm dia	m	2 600		
		.06 355 mm dia	m	1 500		
		.07 400 mm dia	m	1 600		
		.08 500 mm dia	m	500		
		.09 630 mm dia	m	1 000		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.12	Li	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail drawing 7515-W206 and 7515-W207 :				
		.01 Short single erf connection				
		.01 15 mm dia watermeter, 40 mm pipe size	No	150		
		.02 20 mm dia watermeter, 40 mm pipe size	No	50		
		.03 25 mm dia watermeter, 40 mm pipe size	No	20		
		.04 40 mm dia watermeter, 50 mm pipe size	No	20		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	10		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.02 Short double erf connections				
		.01 15 mm dia watermeter, 40 mm pipe size	No	100		
		.02 20 mm dia watermeter, 40 mm pipe size	No	20		
		.03 25 mm dia watermeter, 40 mm pipe size	No	10		
		.04 40 mm dia watermeter, 50 mm pipe size	No	10		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	5		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.03 Long single erf connection				
		.01 15 mm dia watermeter, 40 mm pipe size	No	150		
		.02 20 mm dia watermeter, 40 mm pipe size	No	50		
		.03 25 mm dia watermeter, 40 mm pipe size	No	20		
		.04 40 mm dia watermeter, 50 mm pipe size	No	20		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	10		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.04 Long double erf connections				
		.01 15 mm dia watermeter, 40 mm pipe size	No	100		
		.02 20 mm dia watermeter, 40 mm pipe size	No	20		
		.03 25 mm dia watermeter, 40 mm pipe size	No	10		
		.04 40 mm dia watermeter, 50 mm pipe size	No	10		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	5		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
B402.13		Horizontal drilling: (in any soil condition, excluding of rock)				
		.01 10 mm - 50 mm dia pipe	m	20		
		.02 51 mm - 80 mm dia pipe	m	20		
		.03 81 mm - 100 mm dia pipe	m	50		
		.04 101 mm - 150 mm dia pipe	m	500		
		.05 151 mm - 200 mm dia pipe	m	500		
		.06 201 mm - 250 mm dia pipe	m	200		
		.07 251 mm - 350 mm dia pipe	m	200		
		.08 351 mm - 450 mm dia pipe	m	100		
		.09 451 mm - 550 mm dia pipe	m	100		
		.10 551 mm - 650 mm dia pipe	m	100		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.14		Connection to existing PVC / AC / HDPE water reticulation pipes irrespective of depth	No	100		
B402.15	Li	Launching and exit pits	no	100		
B402.16	Li	Excavate and Disconnect Existing Services	no	100		
B402.17		Pipe Bursting of AC and GRP pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	2 000		
		.02 160 mm dia	m	2 000		
		.03 200 mm dia	m	500		
		.04 250 mm dia	m	500		
		.05 315 mm dia	m	500		
		.06 355 mm dia	m	500		
		.07 400 mm dia	m	500		
		.08 500 mm dia	m	1 500		
		.09 630 mm dia	no	500		
B402.18		Pipe Bursting of Steel Pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	1 000		
		.02 160 mm dia	m	1 000		
		.03 200 mm dia	m	500		
		.04 250 mm dia	m	500		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	no	100		
		.09 630 mm dia	no	100		
B402.19		Pipe Bursting of PVC pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	500		
		.02 160 mm dia	m	500		
		.03 200 mm dia	m	100		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	no	100		
TOTAL CARRIED TO NEXT PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.20		Supply and installation of flanged adapters by butt welding for the following HDPE pipes: (SABS 1123 Table 16)				
		.01 110 mm dia	no	20		
		.02 160 mm dia	no	10		
		.03 200 mm dia	no	10		
		.04 250 mm dia	no	10		
		.05 315 mm dia	no	10		
		.06 355 mm dia	no	10		
		.07 400 mm dia	no	10		
		.08 500 mm dia	no	10		
		.09 630 mm dia	no	20		
B402.21	SC/Li	Supply and installation of temporary HDPE pipes (to ensure permanent water supply to all users):				
		.01 63mm	no	500		
		.02 110mm	no	2 000		
		.03 160mm	no	500		
B402.22	Li	Remove existing t-pieces, couplings, saddles and bends on existing pipes before pipe bursting	no	80		
TOTAL CARRIED TO SUMMARY PAGE						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 4: WATER RETICULATION AND WATER MAINS				
		SECTION 403: TESTING				
403.01		Hydraulic field-testing of pipelines				
		.01 110 mm dia	m	7 050		
		.02 160 mm dia	m	11 050		
		.03 200 mm dia	m	5 550		
		.04 250 mm dia	m	2 600		
		.05 315 mm dia	m	2 600		
		.06 355 mm dia	m	1 500		
		.07 400 mm dia	m	1 600		
		.08 450 mm dia	m	500		
		.09 500 mm dia	m	2 000		
		.10 630 mm dia	m	100		
		TOTAL CARRIED TO SUMMARY PAGE				

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 5 : DRAINAGE AND EROSION PROTECTION				
		SECTION 503 : KERBING AND CHANNELLING				
B503.01		Concrete kerbing (Refer to drawing STD007 1 of 2) "LI"				
		.01 Supply and installation of the following Kerbings: (Drawing STD007 1 of 2)				
	LI	.01 Semi-vertical kerb with channel	m	50		
	LI	.02 Semi-vertical kerb on curved sections	m	50		
	LI	.03 Semi-vertical kerb along straight sections	m	100		
		.02 Construction of Slope Kerbings in position (Drawing STD007 1 of 2)				
	LI	.01 300 sloping kerb	m	100		
	LI	.02 400 sloping kerb	m	100		
TOTAL CARRIED TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 6: ROADS AND PARKING AREA				
		SECTION 609 : SEGMENTED PAVING				
B609.01	SC/Li	CONSTRUCTION OF SEGMENTAL BLOCK PAVING (Refer to drawing STD008 1 of 1) "LI"				
	SC/Li	.02 Repairs of segmented paving (the rate will include the mark-up-, storage-, handling-, and transport cost to the site of works)	m ²	1000		
		.03 Supply of segmental block paving (Reimbursement shall be for the actual purchase cost of the paving blocks plus 10%)	Per 1000			
					Rate as per approved Tax Invoice	
609,03		The construction of edge restraints with				
	SC/Li	.02 Construction of edge restraint in position	m	400		
CARRIED FORWARD TO SUMMARY						

Area B: Region 3

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 6: ROADS AND PARKING AREA				
		SECTION 610 : CONCRETE PAVEMENTS				
B1		<u>CONSTRUCTION OF CONCRETE PAVING (Refer to drawing STD008 1 of 1)</u>				
B610.01	SC/Li	Concrete pavement				
		.01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²	1000		
B610.08	Li	Imprint Concrete pavement				
		.01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²	200		
CARRIED FORWARD TO SUMMARY						

Area B: Region 3

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TOTAL SUMMARY AREA C (REGION 4)

Description	Amount (excluding VAT)
SECTION 001 : GENERAL REQUIREMENTS AND CHARGES	
SECTION 101 : SITE CLEARING AND GRUBBING	
SECTION 102 : ACCOMODATION OF TRAFFIC	
SECTION 104 : LANDSCAPING AND GRASSING	
SECTION 202 : TRENCHING	
SECTION 402 : CONSTRUCTION	
SECTION 403 : TESTING	
SECTION 503: KERBING AND CHANNELLING	
SECTION 609: SEGMENTED PAVING	
SECTION 610: CONCRETE PAVEMENTS	
TOTAL SCHEDULE OF QUANTITIES	
Add 10% of Total Schedule of Quantities for Contingencies	
TENDER AMOUNT EXCLUDING VAT	
Value Added Tax	
TENDER AMOUNT INCLUDING VAT	

Take note that the rates are fixed but the quantities will vary subject to the scope of work per project.
Take note that this is a rate only tender and the rates will be approved.

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		AREA-C: REGIONS 4, 5, 6 & 7				
		SERIES 0 : GENERAL				
		SECTION 001 : GENERAL REQUIREMENTS AND CHARGES				
001.01		Preliminary and general charges				
		.01 Fixed charges	month/per project	108		
002.01		Sevices for office and laboratories	Lump Sum/ per project	20		
002.02		Treatment and maintenance of areas surrounding offices and laboratories	Lump Sum / Per project	20		
B001.01		.02 Time-related charges	month/per project	108		
B001.01		.03 The Contractor's establishment on site	no	6		
B001.02		Location of existing services by locaters (detecting machine)	m	40 000		
B001.03	Li	Excavate by hand to expose existing services and backfill (LI)	per inspection hole	1 500		
001.04		Compliance with the Occupational Health and Safety Act and applicable regulations				
B001.04		.01 Provision of a Health and Safety plan	lump Sum/per project	6		
B001.04		.02 Provision of a Health and Safety file	lump Sum/per project	6		
B001.04		.03 Provision of construction supervisors	per month/ per project	108		
B001.04		.04 Provision of a safety officer (fullpart time)	per month/ per project	108		
B001.04		.08 Implementation of OHS plan	per month/ per project	108		
B001.05		Community Liaison Officer (CLO)	per month/ per project	72	R14 653,67	R1 055 064,24
B001.09	SC	Appointment of Local Security Company	Per month/ per site	108		
001.10		Day works				
		.01 Provision of skilled, semi skilled and unskilled for day works				
		.01 Qualified Artisan	hr	Rate only		
		.02 Semi-skilled labourer	hr	Rate only		
		.03 Labourer	hr	Rate only		
		.02 Plant Hire (use of plant already established on site for day works)				
		.01 Tipper Truck (10 ton)	hr	Rate only		
		.02 Flatbed truck (5 ton)	hr	Rate only		
		.03 Light delivery vehicle	hr	Rate only		
		.04 Water Tanker (large)	hr	Rate only		
		.05 Rammer	hr	Rate only		
		.06 TLB	hr	Rate only		
		.07 Butt welding machine	hr	Rate only		
B001.11	SC/Li	Print, supply, distributions and removal of water interruptions notice color printed				
		.01 Color printed on correx	m ²	500		
		.02 A5 flyers	each	5000		
TOTAL CARRIED TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 101: SITE CLEARING AND GRUBBING				
101.01		Clearing and grubbing				
	SC/Li	.01 Areas	m ²	100		
B101.01		.02 Strips 3m wide	m	5 000		
101.02		Cutting and removing large trees with a girth:				
	SC/Li	.01 Exceeding 1m and up to and including 2m (LI)	No	5		
	SC/Li	.02 Exceeding 2m and up to and including 3m (LI)	No	5		
101.03		Grubbing and the removal of the stumps and roots of large trees with a girth:				
	SC/Li	.01 Exceeding 1m and up to and including 2m	No	5		
	SC/Li	.02 Exceeding 2m and up to and including 3m	No	5		
TOTAL CARRIED TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 102: ACCOMMODATION TRAFFIC				
102.10		Provision of temporary bridges for				
	SC	.01 Temporary fencing	m	200		
	SC	.02 Temporary gates	No	2		
102.12		Provision of temporary bridges for maintaining access to properties				
		.01 Temporary pedestrian bridges	No	5		
		.02 Temporary vehicular bridges	No	5		
102.13		Moving of temporary bridges to and their re-erection in entirely new positions				
		.01 Temporary pedestrian bridges	No	20		
		.02 Temporary vehicular bridges	No	20		
B102.14		Temporary traffic-control facilities				
	Li	.01 Flagmen	per month/ per project	108		
		.02 Portable STOP and GO signs	No	20		
		.03 Amber flicker lights	No	20		
		.04 Road signs, TR-series, 1200mm in diameter or 900 x 675mm if rectangular	No	50		
		.05 Road signs, TW-series, 1 524mm sides	No	50		
		.06 Road signs, TG-series	m ²	30		
		.07 Danger plates and delineators	No	50		
		.09 Traffic cones	lump sum / per project	6		
		.10 Plastic New Jersey Barrier	No	100		
TOTAL CARRIED TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 1: ANCILLARY WORK				
		SECTION 104: LANDSCAPING AND GRASSING				
104.01		Trimming				
		.01 Machine trimming	m ²	5 000		
B104.01	Li	.02 Hand trimming	m ²	40 000		
104.03		Preparing areas for grassing and ground covers				
		.02 Topsoiling on the Site with -				
		.01 topsoil obtained from the Site or borrow areas provided by Employer	m ³	50		
		.02 topsoil provided by the Contractor from other sources (including all haul)	m ³	3 500		
104.03		.05 Stockpiling of topsoil	m ³	3 500		
104.08		Extra work for landscaping	Prov Sum	1	R100 000,00	R100 000,00
TOTAL CARRIED TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 2: EARTHWORKS				
		SECTION 202: TRENCHING				
202.01		Trench excavations				
		.01 Up to 1,0 m wide				
		.01 up to 2,0 m deep	m ³	21 000		
		.02 over 2,0 m deep	m ³	1 000		
202.02		Extra over items 202.01, 202.03 and 202.04 for excavating in				
		.02 hard material	m ³	6 000		
B202.03		Excavations outside the normal trench profile	m ³	100		
202.04	Li	Hand excavations Extra-over item 202.01	m ³	5 000		
B202.17	Li	Hand excavation for trenches inside erven.				
		Trenches 500 mm wide and 600 mm deep.	m ³	100		
202.06	Li	The backfilling of trenches with material obtained from excavations (excluding backfill around the pipe barrel)	m ³	13 000		
B202.07		Extra over items 202.06 and 202.13 for using backfill material obtained				
		.01 from borrow areas	m ³	50		
		.02 from sources provided by Contractor	m ³	5 000		
B202.07		.03 G4 provided by Contractor	m ³	3 000		
202.08		Backfilling additional excavations in trench floor using:				
		.02 concrete aggregate, max size 38 mm	m ³	10		
202.10	SC/Li	Removal of spoil material -				
		.02 to dumping areas to be provided by the Contractor	m ³	10 000		
B202.11		Timbering and shoring left in excavations	m ³	50		
202.12		Extra over item 202.06 for additional compaction of back-fill to 93% of modified AASHTO density in road reserves	m ³	5 500		
202.13		Backfilling trenches with soilcrete under tar	m ³	50		
202.15		Reinstatement of bitumen surfaced roads	m ²	3 000		
B202.16		Cutting and removal of premix:				
		.01 Premix thickness up to 100 mm	m ²	3 000		
		.02 Premix thickness 101 mm up to 200 mm	m ²	500		
		.03 Premix thickness 201 mm up to 300 mm	m ²	100		
		.04 Premix thicker than 300 mm	m ²	100		
TOTAL CARRIED TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 4: WATER RETICULATION AND WATER MAINS				
		SECTION 402: CONSTRUCTION				
402.01		Supplying, laying and jointing of water pipes irrespective of depth:				
		.01 Class 12 uPVC pipes, SANBS 966: 1998 Part 1				
	Li	.01 110 mm dia	m	9 000		
	Li	.02 160 mm dia	m	7 000		
	Li	.03 200 mm dia	m	5 000		
		.04 250 mm dia	m	2 500		
		.05 315 mm dia	m	500		
		.06 355 mm dia	m	500		
		.07 400 mm dia	m	500		
		.08 450 mm dia	m	500		
		.09 500 mm dia	m	500		
		.02 SANBS / ISO 4427 PE100 PN12.5 HDPE pipes (including all fittings and couplings)				
	Li	.01 32 mm dia PN16	m	50		
	Li	.02 40 mm dia PN 16	m	100		
	Li	.03 50 mm dia PN16	m	50		
	Li	.04 63 mm dia PN 12.5	m	600		
	Li	.05 110 mm dia PN 12.5	m	2000		
	Li	.06 160 mm dia PN 12.5	m	1500		
	Li	.07 200 mm dia PN 12.5	m	50		
		.08 250 mm dia PN 12.5	m	50		
		.09 315 mm dia PN 12.5	m	50		
		.10 355 mm dia PN 12.5	m	50		
		.11 400 mm dia PN 12.5	m	50		
		.12 500 mm dia PN 12.5	m	50		
		.03 PN 12.5 PVC –O 500 pipes, SANBS / ISO 16422: 2008				
	Li	.01 110 mm dia	m	6000		
	Li	.02 160 mm dia	m	3000		
	Li	.03 200 mm dia	m	1000		
		.04 250 mm dia	m	1000		
		.05 315 mm dia	m	500		
		.06 400 mm dia	m	500		
		.07 500 mm dia	m	500		
		.08 630 mm dia	m	500		
		.04 PN 16 PVC –O 500 pipes, SANBS / ISO 16422: 2008				
	Li	.01 110 mm dia	m	2000		
	Li	.02 160 mm dia	m	1000		
	Li	.03 200 mm dia	m	100		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 400 mm dia	m	50		
		.07 500 mm dia	m	50		
		.08 630 mm dia	m	50		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.05 Medium Galvanised mild steel, medium class pipes, including all fittings and couplings (wrapped with grease tape and then covered with PVC tape): (LI)				
	Li	.05 80 mm dia	m	200		
	Li	.06 100 mm dia	m	50		
	Li	.07 150 mm dia	m	20		
	Li	.08 200 mm dia	m	10		
402.02		Extra over item 402.01 for providing and installing fittings, valves and specials:				
		.01 uPVC 90° Bends (Class 16):				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	15		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.02 uPVC 45° Bends (Class 16):				
		.01 110 mm dia	No	50		
		.02 160 mm dia	No	30		
		.03 200 mm dia	No	15		
		.04 250 mm dia	No	15		
		.03 uPVC 22½° Bends (Class 16):				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.04 uPVC 11¼° Bends (Class 16):				
		.01 110 mm dia	No	20		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 Mild Steel 90° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.06 Mild Steel 45° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.07 Mild Steel 22½° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.08 Mild Steel 11¼° Bends for PVC pipes (epoxy powder coated - refer to Series 401.05): with VJ flanged adaptors dedicated long barrel				
		.01 315 mm dia	No	2		
		.02 355 mm dia	No	2		
		.03 400 mm dia	No	2		
		.04 500 mm dia	No	2		
		.05 630 mm dia	No	2		
		.09 GMS pipes - 90° Bends, wrapped with grease tape and then covered with PVC tape:				
		.01 80 mm dia	No	40		
		.02 100 mm dia	No	10		
		.03 150 mm dia	No	10		
		.04 200 mm dia	No	10		
		.10 Mild Steel 90° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.11 Mild Steel 45° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.12 Mild Steel 22.5° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.13 Mild Steel 11.25° flanged long radius Bends drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	2		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.14 Cast iron end caps for uPVC pipes:				
		.01 110 mm dia	No	15		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.15 Flanged steel end caps (including corrosion protection as specified) drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	2		
		.07 400 mm dia	No	2		
		.08 500 mm dia	No	2		
		.09 630 mm dia	No	2		
		.16 Cast iron or steel flanged reducers: (epoxy powder coated - refer to Series 401.05):				
		.01 160 x 110 mm	No	30		
		.02 200 x 110 mm	No	20		
		.03 200 x 160 mm	No	20		
		.04 250 x 110 mm	No	10		
		.05 250 x 160 mm	No	10		
		.06 250 x 200 mm	No	10		
		.07 315 x 200 mm	No	10		
		.08 315 x 250 mm	No	5		
		.09 355 x 315 mm	No	5		
		.10 400 x 355 mm	No	2		
		.11 500 x 400 mm	No	2		
		.12 630 x 400 mm	No	2		
		.13 630 x 500 mm	No	2		
		.17 Cast iron flange adaptor for uPVC pipes, drilled in accordance with SABS 1123 Table 16:				
		.01 110 mm dia	No	150		
		.02 160 mm dia	No	50		
		.03 200 mm dia	No	20		
		.04 250 mm dia	No	20		
		.05 315 mm dia	No	50		
		.18 Steel or cast iron flange adaptor for uPVC pipes, drilled in accordance with SABS 1123 Table 16: (epoxy powder coated - refer to Series 401.05):				
		.01 315 mm dia	No	6		
		.02 355 mm dia	No	6		
		.03 400 mm dia	No	6		
		.04 500 mm dia	No	6		
		.05 630 mm dia	No	6		
		.19 Cast Iron / Plastic saddles				
		.01 110 x 40 mm	No	400		
		.02 160 x 40 mm	No	200		
		.03 200 x 40 mm	No	20		
		.04 250 x 40 mm	No	20		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.20 Mild steel saddles				
		(epoxy powder coated - refer to Series 401.05):				
		.01 315 x 40 mm	No	5		
		.02 355 x 40 mm	No	5		
		.03 400 x 40 mm	No	5		
		.21 Cast iron reducing Tees for uPVC pipes:				
		.01 160 x 110 mm	No	15		
		.02 200 x 110 mm	No	5		
		.03 200 x 160 mm	No	5		
		.04 250 x 110 mm	No	5		
		.05 250 x 160 mm	No	5		
		.06 250 x 200 mm	No	5		
		.22 Flanged Cast iron reducing Tees:				
		.01 160 x 110 mm	No	20		
		.02 200 x 110 mm	No	15		
		.03 200 x 160 mm	No	10		
		.04 250 x 110 mm	No	10		
		.05 250 x 160 mm	No	10		
		.06 250 x 200 mm	No	10		
		.23 Flanged steel reducing Tees, flange drilled to				
		SABS 1123 Table 1600/3 (epoxy powder coated - refer to Series 401.05):				
		.01 160 x 110 mm	No	30		
		.02 200 x 110 mm	No	20		
		.03 200 x 160 mm	No	20		
		.04 250 x 110 mm	No	20		
		.05 250 x 160 mm	No	20		
		.06 250 x 200 mm	No	10		
		.07 315 x 250mm	No	5		
		.08 315 x 200 mm	No	5		
		.09 355 x 315mm	No	5		
		.10 355 x 250 mm	No	5		
		.11 355 x 200 mm	No	5		
		.12 400 x 200mm	No	5		
		.13 400 x 315 mm	No	5		
		.14 400 x 355 mm	No	5		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.24 Cast iron equal Tees for uPVC pipes:				
		.01 110 mm dia	No	30		
		.02 160 mm dia	No	20		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 315 mm dia	No	10		
		.25 Flanged steel equal Tees drilled in accordance with SABS 1123 Table 16 (epoxy powder coated - refer to Series 401.05):				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.26 Cast iron hydrant Tees:				
		.01 110 mm dia	No	50		
		.02 160 mm dia	No	30		
		.03 200 mm dia	No	20		
		.04 250 mm dia	No	20		
		.27 Steel flange hydrant Tees drilled in accordance with SABS 1123 Table 16(epoxy powder coated - refer to Series 401.05):				
		.01 110mm dia	No	10		
		.02 160 mm dia	No	10		
		.03 200 mm dia	No	10		
		.04 250 mm dia	No	10		
		.05 315 mm dia	No	5		
		.06 355 mm dia	No	5		
		.07 400 mm dia	No	5		
		.08 500 mm dia	No	5		
		.09 630 mm dia	No	5		
		.09 630 mm dia	No	5		
		.28 Cast iron scour Tees:				
		.01 110 mm dia	No	5		
		.02 160 mm dia	No	5		
		.03 200 mm dia	No	5		
		.04 250 mm dia	No	5		
		.29 Galvanised screwed flanges drilled in accordance with SABS 1123 Table 16				
		.01 80 mm dia	No	20		
		.02 100 mm dia	No	40		
		.03 150 mm dia	No	20		
		.04 200 mm dia	No	10		
		.30 GMS Nippels				
		.01 80mm	No	20		
		.02 100mm	No	40		
		.03 150mm	No	20		
		.04 200mm	No	10		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
	.31	GMS Equal Tee's				
	.01	80mm	No	10		
	.02	100mm	No	10		
	.03	150mm	No	10		
	.32	GMS Reducing Tees				
	.01	160mm - 100mm	No	10		
	.02	100mm - 80mm	No	10		
	.33	Adopter Couplings (Range couplings)				
	.01	108 - 118mm	No	5		
	.02	109 - 128mm	No	10		
	.03	159 - 170mm	No	10		
	.04	159 - 182mm	No	10		
	.05	190 - 205mm	No	10		
	.06	239- 250mm	No	5		
	.07	250 - 267mm	No	5		
	.08	315 - 328mm	No	5		
	.09	350 - 360mm	No	2		
	.10	396 - 406mm	No	2		
	.11	500 - 510mm	No	2		
	.12	628 - 650mm	No	2		
	.34	GMS Sockets				
	.01	80mm	No	20		
	.02	100mm	No	40		
	.03	150mm	No	20		
	.35	GMS Weld-on Flanges - Class 16				
	.01	100mm	No	20		
	.02	150mm	No	15		
	.03	200mm	No	10		
	.04	250mm	No	10		
	.05	315mm	No	4		
	.06	355mm	No	4		
	.07	410mm	No	4		
	.36	Flexible flange adaptor with extended barrel length (epoxy powder coated - refer to Series 401.05):				
	.01	109 - 128mm	No	5		
	.02	159 - 182mm	No	5		
	.03	190 - 205mm	No	5		
	.04	239 - 250mm	No	5		
	.05	315 - 328mm	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.37 Long barrel Adaptor Couplings (Range coupling, epoxy powder coated - refer to Series 401.05):				
		.01 88 - 103mm	No	5		
		.02 109 - 128mm	No	5		
		.03 159 - 182mm	No	5		
		.04 192 - 210mm	No	5		
		.05 250 - 267mm	No	5		
		.06 315 - 332mm	No	2		
		.38 Stainless steel clamp with a tapping outlet to be used as a saddles				
		.01 110 x 40 mm	No	20		
		.02 160 x 40 mm	No	10		
		.03 200 x 40 mm	No	10		
		.04 250 x 40 mm	No	10		
		.05 315 x 40 mm	No	10		
		.06 355 x 40 mm	No	10		
		.39 Double flanged, anti clockwise closing "RSV"(Class 16) capped top valves drilled in accordance with SABS 1123 Table 16:				
		.01 80 mm	No	10		
		.02 100 mm	No	40		
		.03 150 mm	No	20		
		.04 200 mm	No	10		
		.05 250 mm	No	10		
		.06 300 mm	No	5		
		.07 350 mm	No	2		
		.08 400 mm	No	2		
		.09 500 mm	No	2		
		.40 Restrained Quick flange adaptor for HDPE pipe Epoxy coated complete with gripper ring:				
		.01 110 mm	No	5		
		.02 160 mm	No	5		
		.03 200 mm	No	5		
		.04 250 mm	No	5		
		.05 315 mm	No	2		
		.41 Restrained Quick flange adaptor for PVC pipe Epoxy coated:				
		.01 110 mm	No	10		
		.02 160 mm	No	10		
		.03 200 mm	No	10		
		.04 250 mm	No	5		
		.05 315 mm	No	2		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.42 Double acting air valve with variable orifice 16 bar flanged				
		.01 25 mm	No	1		
		.02 50 mm	No	1		
		.03 80 mm	No	1		
B402.02		.43 Custom made Steel special to be measured, manufactured and installed				
		(epoxy powder coated - refer to Series 401.05):	each	Per approved quotation		
		.44 Electrofusion Coupler PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.45 Electrofusion Elbow 90° PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.46 Electrofusion Elbow 45° PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.47 Electrofusion Equal Tee PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.48 Electrofusion Reduced Tee PE100 SDR11 (ISO S5) Installed in accordance with SABS 10268				
		.01 160 X 110mm dia	No	1		
		.02 200 X 110mm dia	No	1		
		.03 200 X 160mm dia	No	1		
		.04 250 X 110mm dia	No	1		
		.05 110 X 90mm dia	No	1		
		.06 160 X 90mm dia	No	1		
		.07 200 X 90mm dia	No	1		
		.08 250 X 160mm dia	No	1		
		.08 250 X 160mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
		.49 Elbow 90° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.50 Elbow 45° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.51 Elbow 30° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) PE100 SDR11 (ISO S5) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.52 Elbow between 11 and 15° Spigot fittings, seamless, per moulded bend for butt fusion (long ends) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
		.05 315 mm dia	No	1		
		.06 355 mm dia	No	1		
		.07 400 mm dia	No	1		
		.08 500 mm dia	No	1		
		.09 630 mm dia	No	1		
		.53 Equal Tee Spigot fittings, per moulded and reinforced for butt fusion (long spigot) Installed in accordance with ISO21307 – 2011				
		.01 110 mm dia	No	1		
		.02 160 mm dia	No	1		
		.03 200 mm dia	No	1		
		.04 250 mm dia	No	1		
TOTAL CARRIED TO NEXT PAGE						

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
402.04		Providing thrust blocks using class 15/19 concrete As per drawing 7515-W108	m ³	100		
402.05		Supplying and placing unscreened selected backfill material under, alongside and up to 200 mm above pipe barrel using:				
	Li	.01 Excavated material (L1)	m ³	3 000		
	Li	.02 Imported material from sources provided by the Employer (L1)	m ³	50		
	Li	.03 Imported material from sources provided by the Contractor (L1)	m ³	4 000		
402.06	Li	Extra over item 402.05 for screening excavated material for selected backfill (L1)	m ³	3 000		
402.07		Valve chambers complete (including valves and all fittings, labour and excavation and backfilling):				
		.01 Supply and installation of Cast Iron / PVC Valve box complete for "RSV" valves as shown drawing 7515-W103 (type A) Complete with all fittings, valve and backfilling/excavation)	No	20		
		.02 Supply and installation of Precast concrete valve box according to drawing 7515-W103 (type B) Complete with all fittings	No	60		
		.03 Supply and installation new air valve chamber according to drawing 7515-W107 (Complete Air valve chamber with all fittings and 1500ø concrete ring) Rate shall include excavation, backfilling and labour.	No	1		
		.04 Construction of a reinforced concrete valve chamber, with dimensions of 4.0m x 8.0m x 2.4m deep according to drawing 7515-VC106A and (including all material, labour and excavations complete)	No	1		
		.05 Construction of a reinforced concrete valve chamber, with dimensions of 6.0m x 6.0m x 3.5m deep according to drawing 7515-VC107A and 7515-VC107B (including all material, fittings, valves, labour and excavations complete)	No	1		
		.06 Construction of a reinforced concrete valve chamber, with dimensions of 3.0m x 6.5m x 2.4m deep according to drawing 7515-VC113A and deep (including all material, valves and fittings, labour and excavations/backfilling complete)	No	1		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.12	Li	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail drawing 7515-W206 and 7515-W207 :				
		.01 Short single erf connection				
		.01 15 mm dia watermeter, 40 mm pipe size	No	180		
		.02 20 mm dia watermeter, 40 mm pipe size	No	50		
		.03 25 mm dia watermeter, 40 mm pipe size	No	20		
		.04 40 mm dia watermeter, 50 mm pipe size	No	20		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	10		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.02 Short double erf connections				
		.01 15 mm dia watermeter, 40 mm pipe size	No	80		
		.02 20 mm dia watermeter, 40 mm pipe size	No	20		
		.03 25 mm dia watermeter, 40 mm pipe size	No	10		
		.04 40 mm dia watermeter, 50 mm pipe size	No	10		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	5		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.03 Long single erf connection				
		.01 15 mm dia watermeter, 40 mm pipe size	No	180		
		.02 20 mm dia watermeter, 40 mm pipe size	No	50		
		.03 25 mm dia watermeter, 40 mm pipe size	No	20		
		.04 40 mm dia watermeter, 50 mm pipe size	No	20		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	10		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.04 Long double erf connections				
		.01 15 mm dia watermeter, 40 mm pipe size	No	80		
		.02 20 mm dia watermeter, 40 mm pipe size	No	20		
		.03 25 mm dia watermeter, 40 mm pipe size	No	10		
		.04 40 mm dia watermeter, 50 mm pipe size	No	10		
		.05 50 mm dia watermeter, 80 mm pipe size	No	10		
		.06 80 mm dia watermeter, 100 mm pipe size	No	5		
		.07 100 mm dia watermeter, 150 mm pipe size	No	5		
		.05 Supply of water meters (this item will only be used if CoT don't have stock in its stores)				
		.01 15 mm dia watermeter	Prov Sum	1	R50 000,00	R50 000,00
		.02 20 mm dia watermeter	Prov Sum	1	R10 000,00	R10 000,00
		.03 25 mm dia watermeter	Prov Sum	1	R10 000,00	R10 000,00
		.04 40 mm dia watermeter	Prov Sum	1	R10 000,00	R10 000,00
		.05 50 mm dia watermeter	Prov Sum	1	R10 000,00	R10 000,00
		.06 80 mm dia watermeter	Prov Sum	1	R50 000,00	R50 000,00
		.07 100 mm dia watermeter	Prov Sum	1	R20 000,00	R20 000,00
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.13		Horizontal drilling: (in any soil condition, excluding of rock)				
		.01 10 mm - 50 mm dia pipe	m	20		
		.02 51 mm - 80 mm dia pipe	m	20		
		.03 81 mm - 100 mm dia pipe	m	50		
		.04 101 mm - 150 mm dia pipe	m	1 000		
		.05 151 mm - 200 mm dia pipe	m	500		
		.06 201 mm - 250 mm dia pipe	m	200		
		.07 251 mm - 350 mm dia pipe	m	200		
		.08 351 mm - 450 mm dia pipe	m	50		
		.09 451 mm - 550 mm dia pipe	m	50		
		.10 551 mm - 650 mm dia pipe	m	50		
B402.14		Connection to existing PVC / AC / HDPE water reticulation pipes irrespective of depth	No	50		
B402.15	Li	Launching and exit pits	no	50		
B402.16	Li	Excavate and Disconnect Existing Services	no	100		
B402.17		Pipe Bursting of AC or GRP pipes, irrespective of diameter and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	2000		
		.02 160 mm dia	m	1000		
		.03 200 mm dia	m	500		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	no	100		
B402.18		Pipe Bursting of Steel Pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	1000		
		.02 160 mm dia	m	500		
		.03 200 mm dia	m	100		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	no	100		
B402.19		Pipe Bursting of PVC pipes, irrespective of diameter, and Installation of the following new HDPE Pipe				
		.01 110 mm dia	m	100		
		.02 160 mm dia	m	100		
		.03 200 mm dia	m	100		
		.04 250 mm dia	m	100		
		.05 315 mm dia	m	100		
		.06 355 mm dia	m	100		
		.07 400 mm dia	m	100		
		.08 500 mm dia	m	100		
		.09 630 mm dia	no	100		
TOTAL CARRIED TO NEXT PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
Carried over from Series 4: Water reticulation and water mains:						
B402.20		Supply and installation of flanged adapters by butt welding for the following HDPE pipes: (SABS 1123 Table 16)				
		.01 110 mm dia	no	20		
		.02 160 mm dia	no	10		
		.03 200 mm dia	no	10		
		.04 250 mm dia	no	10		
		.05 315 mm dia	no	10		
		.06 355 mm dia	no	10		
		.07 400 mm dia	no	10		
		.08 500 mm dia	no	10		
		.09 630 mm dia	no	10		
B402.21	SC/Li	Supply and installation of temporary HDPE pipes (to ensure permanent water supply to all users):				
		.01 63mm	no	500		
		.02 110mm	no	2 000		
		.03 160mm	no	500		
B402.22	Li	Remove existing t-pieces, couplings, saddles and bends on existing pipes before pipe bursting	no	50		
TOTAL CARRIED TO SUMMARY PAGE						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 4: WATER RETICULATION AND WATER MAINS				
		SECTION 403: TESTING				
403.01		Hydraulic field-testing of pipelines				
		.01 110 mm dia	m	17 000		
		.02 160 mm dia	m	11 000		
		.03 200 mm dia	m	6 100		
		.04 250 mm dia	m	3 600		
		.05 315 mm dia	m	1 100		
		.06 355 mm dia	m	500		
		.07 400 mm dia	m	1 050		
		.08 450 mm dia	m	500		
		.09 500 mm dia	m	500		
		.10 630 mm dia	m	550		
		TOTAL CARRIED TO SUMMARY PAGE				

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 5 : DRAINAGE AND EROSION PROTECTION				
		SECTION 503 : KERBING AND CHANNELLING				
B503.01		Concrete kerbing (Refer to drawing STD007 1 of 2) "LI"				
		.01 Supply and installation of the following Kerbings: (Drawing STD007 1 of 2)				
	LI	.01 Semi-vertical kerb with channel	m	50		
	LI	.02 Semi-vertical kerb on curved sections	m	50		
	LI	.03 Semi-vertical kerb along straight sections	m	80		
		.02 Construction of Slope Kerbings in position (Drawing STD007 1 of 2)				
	LI	.01 300 sloping kerb	m	80		
	LI	.02 400 sloping kerb	m	80		
TOTAL CARRIED TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 6: ROADS AND PARKING AREA				
		SECTION 609 : SEGMENTED PAVING				
B609.01	SC/Li	CONSTRUCTION OF SEGMENTAL BLOCK PAVING (Refer to drawing STD008 1 of 1) "LI"				
	SC/Li	.02 Repairs of segmented paving (the rate will include the mark-up-, storage-, handling-, and transport cost to the site of works)	m ²	1000		
		.03 Supply of segmental block paving (Reimbursement shall be for the actual purchase cost of the paving blocks plus 10%)	Per 1000			
					Rate as per approved Tax Invoice	
609,03		The construction of edge restraints with				
	SC/Li	.02 Construction of edge restraint in position	m	200		
CARRIED FORWARD TO SUMMARY						

Area C: Regions 4, 5, 6 7

Item	SC/Li	Description	Unit	Scheduled Quantity	Rate	Amount (excluding VAT)
		SERIES 6: ROADS AND PARKING AREA				
		SECTION 610 : CONCRETE PAVEMENTS				
B1		<u>CONSTRUCTION OF CONCRETE PAVING (Refer to drawing STD008 1 of 1)</u>				
B610.01	SC/Li	Concrete pavement				
		.01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²	1000		
B610.08	Li	Imprint Concrete pavement				
		.01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²	200		
CARRIED FORWARD TO SUMMARY						

Area C: Regions 4, 5, 6 7

TOTAL SUMMARY AREA D (REGION 6)

Description	Amount (excluding VAT)
SECTION 001 : GENERAL REQUIREMENTS AND CHARGES	
SECTION 101 : SITE CLEARING AND GRUBBING	
SECTION 102 : ACCOMODATION OF TRAFFIC	
SECTION 104 : LANDSCAPING AND GRASSING	
SECTION 202 : TRENCHING	
SECTION 402 : CONSTRUCTION	
SECTION 403 : TESTING	
SECTION 503: KERBING AND CHANNELLING	
SECTION 609: SEGMENTED PAVING	
SECTION 610: CONCRETE PAVEMENTS	
TOTAL SCHEDULE OF QUANTITIES	
Add 10% of Total Schedule of Quantities for Contingencies	
TENDER AMOUNT EXCLUDING VAT	
Value Added Tax	
TENDER AMOUNT INCLUDING VAT	

Take note that the rates are fixed but the quantities will vary subject to the scope of work per project.
Take note that this is a rate only tender and the rates will be approved.

Contract: WS 19 2023/24 Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required.

Part C3: Scope of work

Section: C3.1: Description of the Works

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2023/24

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENTION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

PORTION 2: CONTRACT

PART C3: SCOPE OF WORK

SCOPE OF WORK

INDEX

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C3.2	ENGINEERING	10-14
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C3.4	CONSTRUCTION	17-48
C3.5	MANAGEMENT	49-57
C3.6	PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS	58-87
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C3.8	REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN	

Contract: WS 19 2023/24 Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required.

Part C3: Scope of work

Section: C3.1: Description of the Works

CITY OF TSHWANE

WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2023/24

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENSION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.1 DESCRIPTION OF THE WORKS

C3.1 DESCRIPTION OF THE WORKS

3.1.1 Employers objectives

The employer's objectives are to replace, upgrade and/or augment existing public infrastructure and to provide new infrastructure to agricultural holdings where required. Two methods of construction are envisaged to be used namely conventional open excavation and trenchless replacement using the pipe bursting technique.

The pipe bursting technique will be used where conditions are favourable for that method: (Where the depth of the existing pipe is sufficient, where there is sufficient space on the sidewalk and existing pipe diameter is large enough for applying the pipe burst technique).

Personnel directly involved with the installation of pipes using pipe bursting shall have received training and shall have related experience. Only qualified staff who have been instructed and have experience in the use of butt-fusion and electro fusion equipment shall be permitted to perform polyethylene pipe welding and installation of electro fusion couplings, as applicable.

Works earmarked for Labour Intensive Construction methods will be numbered with a prefix "LIC" in the bill of quantities to distinguish them from the conventional construction works. Such work shall be constructed using local workers who are temporarily employed in terms of the project specification. These local workers must be sourced from the City of Tshwane (CoT) EPWP Central Database.

During the contract the contractor will be required to make use of subcontractors to execute dedicated portions of the work. Only approved tendered rates will apply for work executed. The contractor will be compensated for the site supervision, material management additionally to assist the subcontractors, training, managing and personal protective clothing that may be required for the subcontractors.

Work earmarked for subcontractors will be numbered with a prefix "SC" in the bill of quantities to distinguish them from the conventional construction works. Such work shall be constructed by subcontractors who will be temporarily employed in terms of the project specifications.

It is the objective of the CoT to appoint three contractors for a three-year period with a CIDB grading per area as follows:

- Area A: Regions 1 & 2 - CIDB 7CE or higher
- Area B: Region 3 - CIDB 7CE or higher
- Area C: Regions 4, 5, 6 and 7 - CIDB 7CE or higher

The contractors will receive confirmation of the following year's list of projects approximately 2 to 3 months prior to each new financial year. The contractors together with the Engineer will compile the program. This program can be changed if critical projects have to be done.

3.1.2 Location of Site

It has to be emphasised that the contracts will be executed through the entire Tshwane area in the Region groupings specified below and the contractor must therefore make provision in his rates for all travelling and related costs. No additional payment will be made for these costs and therefore the tender rates must be all inclusive. The tenders are divided into three areas and a contractor will be appointed per area. Area A consists of Regions 1 and 2, Area B of Region 3, Area C of Region 4, 5, 6 and 7.

3.1.3 Overview of the Works

The works consist of the construction of different diameter water pipelines and related works by providing new infrastructure to augment, replace and/or extend existing inadequate (for capacity and/or structural reasons) infrastructure within the boundaries of the City of Tshwane.

The City will appoint a back-up contractor for each area. If the appointed contractor within an area has insufficient capacity or is failing to complete a project successfully the back-up contractor will be utilised.

The suburbs where critical worn-out water network pipelines will be replaced are not fixed, but the list below indicates which designs have been done and where approximately 50% of the projects will be executed per area. Critical worn-out pipelines in any suburb falling under a specific area can be included at any time for implementation. The regions may request that a critical worn-out pipeline that initially had a lower priority but has become problematic be prioritised and included in the scope of works as an emergency replacement in their region.

Area A		Area B	Area C			
Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7
Heatherdale Ext 1	Sinoville Ext 0	Waverley	Eldoraigne Ext 0	East Lynn	Eersterus Ext 2	Riama Park
Soshanguve AA	Magalieskruin Ext 1	Muckleneuk	Eldoraigne Ext 1	Val- de-Grace	Mamelodi Ext 0	
Mabopane Block D	Sinoville Ext 3	Mountain-View	Erasmia Ext 0	Ekklesia	Despatch Ext 0	
	Wonderboom Ext 0	Waterkloof	Wierda Park Ext 0	Waverley	Silverton	
	Magalieskruin	Daspoort			Meyers Park	
Any additional critical pipe requiring replacement /upgrade	Any additional critical pipe requiring replacement /upgrade	Any additional critical pipe requiring replacement /upgrade	Any additional critical pipe requiring replacement /upgrade	Any additional critical pipe requiring replacement /upgrade	Any additional critical pipe requiring replacement /upgrade	Any additional critical pipe requiring replacement /upgrade

3.1.4 Extent of the Works

- i) Locating existing Services not identified by other Utilities and Agencies.
- ii) Laying of different diameter water pipeline types (conventional trench construction)
- iii) Laying of different diameter water pipeline types (trenchless construction)
- iv) Providing temporary water supply to households where the existing secondary main is to be replaced using trenchless methods.
- v) Installation and/or replacement of fire hydrants
- vi) Construction of valve chambers
- vii) Connection to existing water networks

3.1.5 Nature of the Works

a) Conventional and trenchless construction methods

- The excavation of the trenches and installation of the pipes will be done conventionally or trenchless depending on the condition on site. Trenchless construction will mainly be used in dolomite areas where HDPE pipes are installed.

- The trenchless construction method can also be utilised in non-dolomite areas where the conditions are suitable for trenchless construction.

b) Labour intensive construction methods (SPWP)

- Excavate by hand to expose existing services and backfill.
- Clear and grub of site on pipeline route up to 3m wide.
- Cutting and removing trees.
- Grubbing and the removal of the stumps and roots of large trees.
- Flagmen.
- Hand trimming.
- Hand excavation.
- Installation of marker blocks.
- Screening excavated material.
- Backfilling of trench.
- Laying and jointing of water pipes irrespective of depth.
- Install pipe fittings.
- Install polyethylene saddles for erf connections. Outlet standard 40mm dia BSP thread.
- Install HDPE PE100 PN16 erf connections complete as shown on drawings, including excavation, backfilling, excluding saddles.
- Re-connect existing water meters on new pipes where required.

The City of Tshwane (CoT) has a mandate and responsibility to fight poverty, build clean, healthy, safe and sustainable communities. To achieve this, the City adopted an Integrated Poverty Reduction and Community Development Strategy which requires all departments to cooperate and contribute towards poverty reduction through employing EPWP participants on projects. Therefore, the Water and Sanitation Division is committed to utilize participants that are registered on the CoT Central Database on all projects. The aim is to ensure commitment by each contractor on a project to utilize 50% of its personnel of the EPWP Central Database in order to enhance poverty alleviation and the uplifting of participants.

The successful contractor appointed will have to request labour from the EPWP Office that will do a random selection from the Central Database. Fifty percent of all personnel on a project must be appointed from the Central Database provided by the EPWP Office. The idea is to place beneficiaries in the correct or appropriate project roles/occupations to help them achieve income capacity and/or to equip them through skills development. The contractor must provide data about the number of beneficiaries required, qualifications, type of placement/occupation and gender before the project starts. The successful contractor appointed must accommodate students that are in need of practical training or in- service training. One student per region per annum must be trained on this contract. The minimum wage as per Sectoral Determination: Civil Engineering Sector published in the Government Gazette will be payable for students.

c) Subcontracting as condition of tender

Subcontracting in accordance with the Preferential Procurement Policy Framework Act 2000, Preferential Procurement Regulation 2022 will be applicable to this appointment.

A minimum of 30% of the value of the contract must be subcontracted to one or more of the following advance designated groups:

- An EME or QSE.
- An EME or QSE which is at least 51% owned by black people who are youth.
- An EME or QSE which is at least 51% owned by black people who are women.

Definitions:

- "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.
- "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.

The following activities are earmarked for subcontracting but is not all compulsory as long as the minimum of 30% subcontracting is adhered to. This is a rates-only tender that therefore there will not be an appointment value, but the contractor will need to submit monthly statements and proof of payments made to subcontractors to ensure that this requirement is adhere too.

- Establishment of construction camp
- Supply of ablution facilities on site
- Fencing
- Training of Targeted Labour
- Provision of a safety officer
- Security on site
- Clear and grub of site on pipeline route up to 3m wide
- Cutting and removing large trees
- Grubbing and the removal of the stumps and roots of large trees
- Removal of spoil material
- Provision of traffic signs and Plastic New Jersey Barriers
- Trimming
- Supply and placing of topsoil
- Valve chamber complete for RSV valves
- Re-clearing areas when instructed by the engineer
- Landscaping of trees and shrubs
- Print, supply, distributions and removal of water interruptions notice colour printed
- Installation of water meters
- Construction of segmental block paving
- Concrete paving
- Concrete Kerbing
- Hiring of plant

Only approved tendered rates will apply for work executed and the contractor must ensure that the subcontractors are paid a market related price for work done. The contractor will be compensated for the additional site supervision, management of subcontractors, material management, training and personal protective clothing that may be required for the subcontractors per month per subcontractor appointed in accordance with the Preferential Procurement Regulation 2022.

d) Appointment of subcontractors

The Contractor will adopt the following structure for the selecting and appointing of subcontractor(s) for this project:

1. The successful subcontractor(s) will then enter into a written agreement/contract with the principal contractor.
2. The principal contractor should make provision for administration of subcontractors. The principal contractor must provide a construction and material manager to assist subcontractor(s) with their construction work. All items that are suitable for subcontractors are marked with "SC" in the Bill of Quantities. The principal contractor will price all items marked "SC" as well, except in the case of a nominated sub-contractor(s). These tariffs will be binding on the principal contractor if the work is executed by the principal contractor as would be the case should no suitable subcontractor(s) be available. The tariffs on the "SC"-items tendered by the principal contractor will also be used as an index in the evaluation process for appointing subcontractors.
3. The principal contractor can hold the subcontractor(s) responsible for the quality and quantity of work done by them through their agreement/contract but will be ultimately responsible and liable for the work done being the principal contractor and mentor to the subcontractor(s).
4. The principal contractor will submit a performance evaluation report to the Client, the CoT, and to the CIDB for their records should the subcontractor(s) being registered with the CIDB, in the process of registering or planning to register with the CIDB after the completion of the construction works on the project.
5. The principal contractor must ensure that each subcontractor(s) Health and Safety Management Plan is implemented and maintained on their portion of the Works.
6. A monthly progress report including an annexure of the performance of subcontractors will be submitted on a monthly basis.

3.1.6 Location of the works

The sites of the proposed works are located inside the boundaries of the City of Tshwane. The tender is divided into Area-A consisting of Regions 1 and 2, Area-B of Region 3, Area-C of Regions 4, 5, 6 and 7.

3.1.7 Project Allocation

- A tenderer will be required to tender per area specified.
- The City of Tshwane is divided into three areas.
 - Area-A (Regions 1 and 2)
 - Area-B (Region 3)
 - Area-C (R Regions 4, 5, 6 and 7)
- A maximum of three tenderers will be appointed for different areas.
- Tenderers are allowed to tender for all three areas independently, provided they meet the requirements as follows:
 - Tenderers are encouraged to tender for more than one area, provided that they the capacity in terms the mandatory requirements.

- The city reserves the right to award areas to different tenderers based on scoring points.

3.1.8 Geotechnical Information

No dedicated geotechnical investigation has been compiled for this contract. The Tenderer should however convince himself of the ground conditions of the works, before the Tenderer completes the tender document. The Contractor must take note that only soft or hard material, no intermediate material will be paid under this contract. Intermediate material will be paid under soft material. Hard excavation shall be defined as the excavation of all hard, compacted or rock materials that require blasting or the use of ripping and excavation equipment larger than defined for common excavation. See B202.03.

3.1.9 Supplying of Materials

Apart from water meters, which shall be supplied by the City of Tshwane, all material required for this contract shall be supplied by the Contractor. The Contractor shall take care that no delay is caused due to a shortage of material. Therefore, material required shall be ordered well in advance.

While care had been taken in calculating the quantities, the Contractor shall check the quantities before ordering. No claims for payment of excess or incorrect materials due to such shall be entertained.

3.1.10 Quality Control

It is the responsibility of the Principal Contractor to deliver work of quality and accuracy that is in accordance with the specifications and drawings, and the Principal Contractor shall at his own cost provide a quality control system for his work and provide experienced Engineers, Foreman, Surveyors, Technicians and other Technical Personnel together with the necessary transport, instruments and plant to ensure that proper supervision and positive control be applied on the job at all times.

The cost of all supervision and control, test included, performed by the Principal Contractor, shall be included in the relevant rates for the different items when tendering, except where separate provision has been made in the sections of the specifications.

The Principal Contractor's attention is drawn to the stipulations of the different sections of the specifications regarding the minimum frequency of tests to ensure proper quality control. The Principal Contractor shall increase this frequency if he deems fit to ensure appropriate control.

The Principal Contractor shall, at the completion of each part of the work and requesting approval thereof by the Engineer, submit all applicable test results, measurements and levels to indicate if it conforms to the relevant specifications.

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Part C3: Scope of work
Section: C3.2: Engineering

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2023/24

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENSION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.2 ENGINEERING

C3.2 ENGINEERING

C3.2.1 STANDARDS AND CODES OF PRACTICE

The following design standards for civil engineering infrastructure will apply:

- i) *Principles and Standards for the Design and construction of Water and Sanitation Systems in the City of Tshwane* by the Service Delivery Department: Water and Sanitation of the CoT (Revised July 2010).
- ii) *Standard Specifications for Municipal Civil Engineering Works Series 4: Water Reticulation and Water Mains (September 2000)* as supplied by the Water and the Environment Department, Water Supply Department of the City Council of Pretoria (Incorporated in the City of Tshwane).
- iii) *Guidelines for the provision of engineering services and amenities in residential township development* by the National Housing Board (Red book).
- iv) *General Conditions of Contract for Construction Works (2015) (Third Edition)* by the South African Institution of Civil Engineers.
- v) *Standardized Specification 719* as supplied by the South African Bureau of Standards
- vi) *Standard Specifications for Municipal Civil Engineering Works* of the City of Tshwane (Third Edition 2005).
- vii) South African Bureau of Standards (SABS).

C3.2.2 DESIGN & SPECIFICATIONS

DESCRIPTION OF DESIGN PARAMETERS	CATEGORY/APPLICATION	PROPOSED DESIGN STANDARD
Peak factors	Hourly	3,40
	Daily	1,80
	Weekly	1,40
Hydraulic design	Friction coefficient C (Hazen Williams)	140
Residual pressures	Maximum velocity	Less than 1,5 m/s
	Minimum head under instantaneous peak demand	25 m
Material	Maximum head under zero flow conditions	90 m
	Minimum head under instantaneous peak demand and fire flow.	8 m
	Water network	Class 12 uPVC or PVCo
Minimum pipe diameters	House Connections	Class 16 Polyethylene pipes (PE100)
	Fire Hydrants	Tamper proof double-lug with stainless steel spindle

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Section: C3.2: Engineering

	Residential with Fire Hydrant	110 mm dia min.
Spacing of gate valves	Single House Connection (min)	40 mm dia, reducing to 25 at erf
	Double House Connection (min)	40 mm dia, branching to 2x25
	All areas	Any 500 m length of network need to be isolated by closing max. 4 valves
Fire-risk categories	All areas	Low risk – Group 1
Design fire flow	All areas	1 Fire hydrant – 15 l/s
Spacing of fire hydrants	All areas	240 m Maximum
Watermeters & Watermeter boxes	Within 300-400mm outside boundary	Sensus – AGB meter box complete with meter, valves & fittings, Model AGB 800 or similar
Standpipes Garden taps	Between 1.0m and 1.5m inside boundary	Cobra Watertech 20mm Heavy Pattern (code 108-20) SABS 226
Sterilizing of pipes	All pipes to be sterilized prior to testing	

C3.2.3 : LIST OF DRAWINGS : BULK WATER

Drawings will be sent via e-mail if requested from Timothy Mothiba at TimothyMot@tshwane.gov.za.

DRAWING NO	DESCRIPTION
7515-VC200	Brickwork valve chamber (Max 3.4m o/a) layout
7515-VC201	Brickwork valve chamber (Max 3.4m o/a) Rebar Detail & Bending Schedule
7515-VC202	Brick/Reinforced concrete valve chamber (4.0x6.0x2.38m)
7515-VC203	Brick/Reinforced concrete valve chamber (4.0x6.0x2.38m) Rebar Detail & Bending Schedule
7515-VC204	Brick/Reinforced concrete valve chamber (Max width >4.0<6.0m o/a)
7515-VC205	Brick/Reinforced concrete valve chamber (Max width >4.0<6.0m o/a) Rebar detail
W-0131-SOSH-GG-10-005-R00-C	Pressure reducing valve chamber: Soshanguve GG
W-0030-ATT-2013-0001-R00-C	PRV chamber pipework detail and notes: Atteridgeville
W-0030-ATT-2013-0002-R00-C	PRV chamber detail and notes: Atteridgeville
W-0030-ATT-2013-0003-R00-C	PRV chamber pipe schedules: Atteridgeville
W-0030-ATT-2013-0004-R00-C,	PRV chamber reinforcement (1): Atteridgeville
W-0030-ATT-2013-0005-R00-C	PRV chamber reinforcement (2): Atteridgeville
W-0030-ATT-2013-0006-R00-C	PRV chamber reinforcement schedule: Atteridgeville

C3.2.4: LIST OF DRAWINGS: WATER RETICULATION

Drawings will be sent via e-mail if requested from Timothy Mothiba at TimothyMot@tshwane.gov.za.

DRAWING NO	DESCRIPTION
7515-W200	Typical Layout Drawing Water Network
7515-W201	Contract Name Board
7515-W202	Placing of Hydrants, Valves, House Connections and Markers
7515-W203	Valve Chambers
7515-W204	Air valve Chambers
7515-W205	Brickwork Valve Chamber (MAX 3.4m o/a) Rebar detail and bending schedule
7515-W206	Plastic meter box and water communication pipes
7515-W207	Water meter detail with strainer for commercial and group housing developments
7515-W208	Fire Hydrants
7515-W209	Air valve Chambers
7515-W210	Thrust Blocks
7515-W211	Markers, Typical bedding and backfill details for water pipes
7515-W212	Multiple standpipes with water meter (only for low water pressure)
7515-W213	Typical layout for zonal water meter chambers
7515-W214	Sleeves and Culverts for Single pipe Crossings at Roads and Railway Lines
7515-W215	Standpipe with water meter and Jo-Jo water tank
7515-W216	Typical Details
7515-W217	Rainwater harvesting-Typical "dry system" layout
NOTE: FOR THE POSITION OF SERVICES IN THE ROAD RESERVE REFER TO THE LATEST VERSION OF THE FOLLOWING DRAWINGS OBTAINABLE FROM THE ROADS AND TRANSPORT DIVISION	
PLN001- 1 of 4	Services Layout: 13m – 25m Road Reserves
PLN001 – 2 of 4	Services Layout: 8m – 10m Road Reserves
PLN001 – 3 of 4	Services Layout: 32m Road Reserves
PLN001 – 4 of 4	Services Layout Applicable to South-Western Region of Tshwane

The Principal Contractor will receive 3 sets of construction drawings, of which 1 set shall be designated for as-built records and updated by the Principal Contractor on a daily basis. The latter shall be:

- Made available to the Engineer or his/her duly authorised representative within 24 hours on request.
- Submitted to the Engineer with the completion of each project.

Take note: The information contained in the drawings, relating to the position, material and size of the existing pipe, may not be 100% accurate.

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

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C3.3 PROCUREMENT

C3.3 PROCUREMENT

C.3.3.1 Preferential Procurement Procedures

Preferential procurement procedures as described in section T1.2 TENDER DATA shall be used.

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Part C3: Scope of work
Section: C3.4: Construction

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2023/24

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENSION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.4 CONSTRUCTION

C3.4 CONSTRUCTION

C3.4.1 WORKS SPECIFICATIONS

Tenderers, Contractors and Subcontractors shall obtain their own copies of the document "Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005", for tendering purposes and for use for the duration of the Contract from the Procurement Advice Tshwane House, 320 Madiba Street, Pretoria CBD, 0002 and shall bear all expenses in this regard.

The Standard Specifications have been written to cover all types of municipal civil engineering works and it may therefore cover work not applicable to this contract.

C3.4.2 CONTRACTORS EXPERIENCE

The successful tenderer shall be fully trained and experienced in Conventional Construction Methods for laying pipes and/or be fully trained in the specified methods of Pipe Bursting for handling and installing pipe with bursting equipment. Only qualified staff who have been instructed in the use of butt-fusion/electro fusion equipment shall be permitted to perform polyethylene pipe welding. The successful tenderer or his subcontractor shall be fully trained and experienced in EPWP Labour Intensive Construction and will need to submit proof of NQF5 level qualification.

The Contractor is required to furnish satisfactory evidence that he has had actual experience in the type of work for which he is tendering and must submit the evidence with his tender a statement on the prescribed form attached to this contract. The evidence must include details of the employing authority, nature of works, value of works and year completed.

A comprehensive organogram of the company must be submitted with the tender that clearly indicated the existing resource that will be utilized to execute the work successfully. The following points must be included in the operational plan: Infrastructure, equipment, labour.

C3.4.3 SITE FACILITIES AND ESTABLISHMENT

C3.4.3.1 Contractor's Camp Site

The CoT will not provide land for the use of a site camp, it is the responsibility of the Principal Contractor to obtain a site camp. The Principal Contractor shall provide a suitable site for his camp and for accommodating the work force. The choice of the site for the establishment of the camp, offices and the layout thereof, shall be approved.

The camp site shall be cleared and grubbed and properly fenced with a security fence around the perimeter. The Principal Contractor is to provide his own security at the camp or on the site if required, at his own expense.

After completion of the contract, the Principal Contractor shall remove all his temporary buildings, plant and equipment. The site shall be made good and be left in a neat and tidy condition before a certificate of completion shall be issued.

C3.4.3.2 Water Supply

Water for the Works shall be drawn from municipal mains, where available, through authorised

metered connections only. The Principal Contractor must bear the costs of all fees, deposits and water consumed. These costs are to be included in the rates in the Schedule of Quantities for the various construction methods and operations. The Principal Contractor shall make his own arrangements with the Municipality's Water and Sanitation Division, to obtain a metered connection, giving at least 14 days' notice. The size of the connection provided will be as specified in the By-Laws and the Principal Contractor must provide on-site storage should he consider this necessary.

The current tariffs applicable are available from the Water and Sanitation Division. The Principal Contractor can only draw water from fire hydrants specified by the Municipality in exceptional circumstances and then only after written authority has been granted. When permission is granted, the water must be drawn through a metered standpipe issued by the Water and Sanitation Division.

The Contractor shall cease to operate until other arrangements have been made for the supply of water. No claims for delays so caused will be considered.

C3.4.3.3. Ablution Facilities

The Principal Contractor shall, at each construction area, 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 engineer. No separate payment shall be made for this requirement and the costs thereof shall be deemed to be included in the rates billed for the contractor's time-related obligations. All ablution facilities as stipulated in the Occupational Health and Safety act must be provided and no separate payment shall be made for the requirement.

C3.4.3.4 Electric Power Supply

The Principal Contractor shall make his own arrangements for the supply of electric power to suit his own and the Engineer's requirements and operations.

The cost of providing connections, any transformer sub-stations and switchgear, generators, fuel and/or overhead power lines or underground cables required to supply the electric power shall be included in the rates entered in the Schedule.

The cost of electric power consumption for construction, rock drilling, machinery operations, lighting, ventilation and domestic uses is to be included in the rates in the Schedule of Quantities for the various construction methods and operations.

C3.4.3.5 Cellular Telephone

It is a requirement of the contract that the Principal Contractor shall equip his site agent(s), CLO's and foremen with a cellular telephone to allow for effective communication between the contractor's supervisory personnel and the engineer's supervisory staff. All the applicable contact details must be made available to the Employer as well as the staff on site. All costs associated with the provision of cellular telephones for the contractor's personnel shall be deemed to be included in rates billed for time-related charges.

C3.4.3.6 Site Facilities required by the Engineer

The Engineer does not require housing for personnel or laboratory facilities, but an office suitable for site meetings needs to be provided.

C3.4.3.7 Access Road

Where the locality of the Works requires it, the Principal Contractor shall grade or construct, and keep in good and constant repair, temporary access roads connecting public roads in the vicinity with the Works. Such roads must be of a sufficiently high standard for reliable access of heavy transport vehicles in all weathers and shall communicate with all parts of the Works.

C3.4.3.8 Use of Site

All notice boards, sign boards and advertisements on the site shall be subject to the Engineer's approval.

The Principal Contractor shall take all precautions to preserve trees other than those which, of necessity, must be removed for the purpose of fulfilling the Contract.

The Principal Contractor shall maintain the site in a clean, orderly and sanitary condition and shall take all necessary steps and precautions to prevent the pollution of the surrounding area by his employees or animals in any way. These steps and precautions shall be to the satisfaction of the Engineer and Medical Officer of Health of Tshwane.

C3.4.3.9 Precautions against nuisance

The Principal Contractor's attention is drawn to the fact that operations are being conducted in an urban area and in the presence of passing traffic. Special precautions must be taken to protect the public and to prevent unnecessary noise, dust or other nuisance.

Plant used on the Works shall be as efficiently silenced as possible and noisy operations will be permitted only between the hours of 7.00 a.m. and 5.00 p.m. Any work outside normal hours will be permitted only on the written authority of the Engineer.

Wherever machinery is excavating or loading material, which is liable to form a dust nuisance, an effective method of spraying water over the cut area and loaded material shall be installed. Tarpaulins shall be provided to cover trucks and prevent dust blowing from loads during transport.

Any rock or debris falling from trucks on the roads in use by the public shall be removed immediately. Precautions shall be taken to prevent fouling of public roads of completed construction by trucks transporting muddy material. The Engineer may order the Principal Contractor continuously to broom off and clean roads where the mud tracking of vehicles or falling debris may constitute a danger to the travelling public.

C3.4.3.10 Sanitary Accommodation

The Principal Contractor shall provide, maintain, move to positions as required and finally remove proper sanitary accommodation at each work front. Sanitary accommodation shall be properly screened, and its use strictly enforced. The situation of sanitary accommodation prescribed in terms of the Sanitary General By-Laws shall be approved by the Engineer as being convenient for the person whose use it is intended.

The sanitary accommodation provided must be adequately ventilated, properly disinfected and kept in a thoroughly clean condition at all times.

The Principal Contractor shall make arrangements for the provision of the sewer connection in the case of water closets or the removal of pails in the case of pail closets.

The Principal Contractor shall bear all costs associated with the provision of sanitary accommodation. Compensation for these costs will be made under the relevant item in the Schedule of Quantities.

C3.4.3.11 Work in Servitudes

The Principal Contractor shall give 7 days' advance notice to both the Engineer and the property owner of his intention to commence work in a servitude. The Principal Contractor shall not permit his workmen and labourers to use the servitude as a temporary right-of-way and shall carry out the work expeditiously and with minimum inconvenience to the occupiers and to owners of adjacent property.

The Principal Contractor shall take all necessary precautions for the protection of persons, livestock, buildings and property.

The soil shall be kept segregated and all gardens, fences, paths, etc. shall be reinstated to their former condition.

Where acquisition of servitude has not been finalised, it may not be possible to obtain continuity of the work. The Principal Contractor will be required temporarily to omit such sections until instructed that the work may proceed.

No extra payment will be made to the Principal Contractor should it become necessary to omit sections and return to them later. It is not intended, however, that the Principal Contractor should be called upon to return to the Site after all other sections of the contract have been completed and the Principal Contractor has removed his plant and equipment.

Trees removed in a servitude shall remain the property of the stand owners if required by them.

C3.4.3.12 Access to Premises

The Principal Contractor shall maintain adequate access to all public and private property at all times unless otherwise sanctioned by the Engineer. Details of the proposed methods of providing access shall be submitted to the Engineer for approval before such access is restricted. Any claims arising from impeded access shall be wholly the responsibility of the Principal Contractor.

Provision shall be made to allow sanitary services to stands, to be unimpeded.

Where necessary to permit access or egress, the Principal Contractor shall provide for the laying of planks or other temporary covering over excavated and filled works or over concrete or asphalted surfaces in order to protect the work from damage.

Any temporary wooden bridges shall be provided with suitable tubular or other handrails and horizontal members shall be placed at 0,3 m, 0,6 m, 0,9 m and 1,2 m above the level of the boards.

Vehicular access must be maintained to properties at the end of each day's work unless the

Principal Contractor has made alternative arrangements with the occupiers.

C3.4.3.13 Waterways

Free waterways shall be maintained in gutters, drains, streams, etc. and existing conditions shall not be changed by depositing spoil in waterways or by diverting water into private property.

The Principal Contractor shall settle all claims and make good any damage at his own expense should flooding of private or public property occur through waterways being obstructed or diverted as a result of his operations.

C3.4.4 PLANT AND CONSTRUCTION EQUIPMENT

All items of plant used on the Works shall be approved, modern, efficient plant, well suited to the purpose for which the Principal Contractor uses them and shall be properly maintained. Items of plant which leak oil or which, in the opinion of the Engineer, generate excessive noise, smoke, or other nuisance shall be removed from the Works. The Engineer's decision in this respect shall be final and binding upon the Principal Contractor.

All vehicles used on the Works are to be in sound mechanical condition and shall conform to and be operated in accordance with the Gauteng Provincial Ordinance and the Gauteng Provincial Road Traffic regulations. All vehicles must be fully insured against accident or loss, including third party risk and the Principal Contractor shall produce evidence of this if required by the Engineer.

The Principal Contractor shall be deemed to have established the extent to which mechanical plant can be used for excavating and refilling before the submission of his tender. The Engineer's authority to use mechanical plant will not be unreasonably withheld, but if, in the Engineer's opinion, circumstances exist which make it desirable that the use of plant should be suspended either temporarily or permanently, the Principal Contractor shall change the method of performing the work affected at his own cost and he shall be deemed to have no cause for claim against the Municipality on account of having to continue the work by another method nor shall he be deemed to have cause for claim if any order issued by the Engineer result in the mechanical plant having to stand idle for a period of any duration whatsoever or having to be removed.

In particular, where it is impossible due to proximity to existing structures or services to excavate except by hand methods, then in such cases it shall be deemed reasonable for the purpose of this clause for the Engineer to withhold authority to use mechanical plant.

C3.4.5 MATERIALS

C3.4.5.1 General

All materials supplied shall be to SANS, JASWIC and the Divisional Head's applicable specification as amended or where no such specification exists, to the approval of the Engineer. Specifications not contained in the document may be examined by arrangement at the Water and Sanitation Division. It will be required from each contractor to supply proof of conformation to the relevant SANS specifications of all material envisaged to be used on the contract to the Engineer for his approval. A list of approved material and fittings can be collected from the Water and Sanitation Division.

C3.4.5.2 Storage

All materials shall be stored in storage areas which shall be agreed by the Engineer and shall be fenced with 1,8 m high chain link fencing and a lockable gate. Pipes shall be stacked off the ground.

Pipes shall be covered to prevent deterioration through ultra-violet attack.

C3.4.6 SCHEDULE OF QUANTITIES

The Schedule of Quantities include, as far as can be determined, every class of operation, construction and material which the Principal Contractor is likely to be called upon to perform or supply.

All measurements shall be net and no allowance will be made for cutting, waste, laps, etc.

Should there be any doubt or obscurity as to the meaning of any particular item, the Tenderer must obtain an explanation of such item from the Engineer prior to submitting his tender. No claims for extras arising from any doubt or obscurity will be admitted after delivery of the tender.

Reference to clauses in the General Conditions of Contract and the Specification have been made against certain items in the Schedule for the purpose of highlighting the provisions of those clauses, but all relevant Contract requirements will, nevertheless, be applicable to each of these items.

The quantities given are stated purely for evaluation purpose. This is a rates only tender and therefore the rates will be approved. The quantities are only a guide to the estimated value of the contract.

The successful Tenderer shall however be bound to renew whatever lengths of water main or install however many new water meter assemblies and associated communication pipes as the Municipality may actually require during the period of the contract irrespective of the extent to which the total as set out in the Schedule of Quantities may be in excess or below the estimated quantities scheduled.

Tenders not accompanied by a fully priced and extended copy of the Schedule of Quantities will be regarded as informal and reported accordingly.

Upon adjudication of tenders, the unit prices will be taken as correct and any errors in the extensions and/or additions in the priced Schedules will be corrected to comply with the unit prices. Consequently, total tender price will be adjusted.

In cases where any unit price is considered to be too high or too low such price may be of sufficient importance to warrant rejection of the tender.

C3.4.6.1 Contractor to Price all Items

If any item in the Schedule is not priced, it will be understood that the item will be supplied or performed free of charge, an allowance covering it having been made in other items.

C3.4.6.2 Items not mentioned

Should the Tenderer wish to price any fixed charge or time related obligation, arising out of the work described in the Contract Documents but not specifically mentioned in the Schedule of Quantities, he is to do so in the spaces provided in Series 0 of the Schedule.

C3.4.6.3 Day Work

Where the Engineer orders work to be executed on a day work basis rates will be paid as per tender rate.

In all the above cases the cost and wages shall be those in force at the time when the work is carried out and consequently no further adjustment for escalation will be applied.

No additional payments over and above those listed above will be made for Head Office charges, profit, small tools such as picks, shovels, barrows, trowels, hand saws, chisels and all items of a like nature or protective clothing as these are deemed to be included in the percentage additions.

Likewise, site supervision and staff including foreman and walking gangers are included in the percentage additions, but the time of gangers working with their gangs will be paid for as workmen.

C3.4.7 GENERAL ISSUES

C3.4.7.1 Consumer Complaints

Save in respect of the liability arising from Clause 21, the Contractor's responsibility in respect of no water or poor pressure complaints arising out of the execution of the contract shall be limited to ensuring that an adequate cold-water supply exists to the complainant's property.

C3.4.7.2 Advertisements in the media and warnings to customers

The Engineer together with the CoT Project Manager will arrange any media advertisements necessary for warning the public of any extensive shut down of supply necessary, in his opinion, for the proper execution of the works. The Principal Contractor must, however, give at least 14 (fourteen) days' notice to the Engineer of his requirements in this respect. Specifically, media advertisements will be arranged when the number of consumers affected by a shutdown is such that issuing notices to individual consumers as provided hereunder is impracticable. Planned interruptions of water supply shall only be permitted between 09h00 and 15h00 unless otherwise authorised in writing by the Engineer.

The Principal Contractor shall give all consumers affected at least 24 hours' notice in writing of his proposals in regard to every planned interruption of water supply necessary for the execution of his work. Failure to do so will result in the suspension of work for a period as determined by the Engineer.

The Principal Contractor shall give written notice to all consumers, adjacent to the planned route, of work to be done. This notice shall be given well in advance of the starting date of construction. The notice will inform the residence that all grass, irrigation and valuable must be removed beforehand.

C3.4.7.3 Use of Explosives

Explosives shall not be used without the written permission of the Engineer.

C3.4.8 CONSTRUCTION ISSUES

C3.4.8.1 Removal of Existing Mains and Fittings

The Principal Contractor, on completion of the new main or when required by the Engineer, shall remove from the old pipeline all valve boxes, fire hydrants and standpipes.

The old pipeline shall not be removed and will be abandoned on completion of the work. Should the Principal Contractor however wish to recover any part of the abandoned main, he shall first obtain written permission from the Engineer. No extra payment shall be made for any pipe recovered and in addition, the Principal Contractor shall bear the full cost of any reinstatement necessary as a result of his having chosen to recover any pipe.

C3.4.8.2 Position of New Main

The Construction drawings give a guide only to the route of the new main. The final position shall be determined on site by the Engineer. In cases where work is executed in the vicinity of the existing water pipes, precautions shall be taken to ensure that the existing pipelines are not disturbed. A minimum of three inspection holes per block on each side will be done to determine the position of the new proposed pipe. The position must be determined and approved by the Engineer before construction may commence.

C3.4.8.3 Work on Live Main

- a) The Municipality shall not be responsible for any costs or delays incurred as a result of inaccuracies in information regarding the existing reticulation system nor as a result of the malfunctioning of elements of the system.
- b) Prior to the closing down and recharging of the existing water system the Principal Contractor shall inform the Engineer of his proposed procedure for closing down and recharging and shall not commence operations until the approval of the Engineer has been obtained. During operations the Municipality will provide guidance and assistance of a practical nature to the Principal Contractor in matters related to the closing down and recharging of the existing water system.
- c) The Principal Contractor shall provide the Engineer with full details of all the valves he intends to close each day and confirmation that all the valves have been opened and that water has been restored to all consumers before leaving the site each day.
- d) Save under emergency situations, valves shall only be operated under the direct supervision of the Engineer or his representative on site. Unnecessary disruptions to consumers arising from disregard of these requirements will result in the suspension of work for a period as determined by the Engineer.

C3.4.8.4 Flushing of Mains and Communication Pipes

On satisfactory completion of hydrostatic checking, all mains shall be flushed with potable water

supplied by the Municipality. The duration of flushing for the various mains shall be recorded by the Principal Contractor.

The Principal Contractor shall ensure that the water used for flushing is disposed of in an approved manner without causing damage, nuisance or injury.

C3.4.8.5 Payment for Flushing

The Principal Contractor shall allow in his rates for all costs associated with the flushing of mains and communication pipes save the cost of the water used. All water required for the flushing of mains shall be supplied free of charge by the Municipality.

C3.4.8.6 Cleaning of Pipes

Pipe laying operations and precautions taken during pipe laying shall be aimed at eliminating the necessity for cleaning of completed mains. However, if, in the opinion of the Engineer, foreign material has entered or remained in the pipelines, the Principal Contractor shall arrange for the mains to be cleaned prior to testing.

The cost of cleaning including the cost of water used, if any, shall be for the Principal Contractor's account.

C3.4.8.7 Fire Services Fire Hydrants

No fire service may be disconnected from the water mains for a period longer than 24 hours.

C3.4.8.8 Excavation Backfilling and Reinstatement

Excavation, backfilling and reinstatement shall be carried out in accordance with the Project Specification and the Standard Specification for Municipal Civil Engineering work. All excavations shall be performed in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act.

C3.4.8.9 Clearing and Grubbing

If any paving is to be removed to place the new water pipeline in position the rate for the breaking out and removal of the paving shall be claimed under item B101.01.02 in the Schedule of Quantities. No clearing and grubbing will be paid where the new pipelines are to be laid on the sidewalk (area between the road and the erf boundary fence).

It must be noted that the area between the erf boundary and the road must be clean, with no stones or rocks which can damage any machine used to cut the lawn.

C3.4.8.10 Excavations

a) Trenches - General

Trenches shall be backfilled level with adjacent surfaces immediately after completion of pipe laying. Should pipe laying not be complete before work is due to cease for the day, the Engineer shall be entitled to instruct the Principal Contractor to backfill the trench and re-excavate it the following morning in order to complete pipe laying. The cost of the above shall be included in the Principal Contractor's rates for excavation and no additional payments will be made for this

requirement.

Pads shall be fitted to the outriggers of excavating plant to prevent damage to road surfaces. Damage to any surfaces beyond the trench widths specified shall be repaired at the Principal Contractor's expense.

b) Trenches - Roads

Class 1 to 3 roads (road classes to be obtained from Roads and Transport Division) may only be crossed using trenchless methods. If trenchless methods for some reason cannot be used, special permission to excavate must be obtained from Roads and Transport Division.

Even if a trenching machine is used, road surfaces shall first be cut with a diamond tipped saw or other approved method. After the trench has been backfilled and compacted, the road surface has to be cut again, 200mm from the edge, on both sides of the trench.

If a trenching machine is used for road crossings, the road shall first be cut with a diamond tipped saw, or other approved method. All trenches across the road shall be cut at right angles to the kerb. Damage to the road surfaces beyond the trench widths specified shall be repaired at the Principal Contractors expense.

The length of pre-mix cut shall be measured and paid for under item B202.16 as provided in the Schedule of Quantities. The complete closure of any road shall not be permitted without the written consent of the Engineer.

During the time that the trenches have been backfilled and the time that the Municipality reinstates the road surfaces, the Principal Contractor will be responsible for the maintenance on the road.

The trench will be backfilled above the selected material with G5 material in 150mm layers, stabilised with 3% cement, compacted to 95% MOD AASHTO and paid for under items 202.15 and B202.07.03, as provided in the Schedule of Quantities. No haulage will be paid separate but the rate for haulage must be included in items 202.07 and 202.15.

c) Trenches – Paving and driveways etc

The last 450mm of backfill in the trench will be done with G5 material, compacted to 93% MOD AASHTO. Payment will be in accordance with 202.12 and B202.07.03. No haulage is payable.

d) Removal of Excavated Material

Excavated material shall not remain on the work site for more than 48 hours.

The Principal Contractor's scheduled rates shall cover the cost of complying with this restriction including, inter alia, the cost of removing off site to temporary stockpiles and then returning to site, excavated material suitable for use as backfill or bedding. No haulage will be paid separately, but the rate for haulage must be included in items 202.07, 202.10 and 402.05.

e) Maintenance of Excavations

Existing mains are in general located at a cover depth from 0,6m to 1,5m and excavation to at least this depth will be required for tie-ins etc.

The Principal Contractor shall be solely and entirely responsible for maintaining excavations in a safe condition and this responsibility shall be in no way diminished by any instruction by the Engineer to take additional or improved protection or precautionary measures.

It should be noted by tenderers that plastic tape is not regarded as adequate protection around excavations and its use for that purpose shall not be allowed.

Plastic New Jersey barricades will be used. The rate under item B102.14 must include full compensation for the moving and maintenance of all barricades for the duration of the contract.

f) Depth of Excavations

The minimum cover to all new mains shall be 800 mm.

g) Intermediate Material

No intermediate material will be paid under this contract. Only soft or hard material will be paid.

Hard material will be classified as material where mechanical plant, such as compressors and jack hammers or blasting is required.

C3.4.8.11 Testing of Backfill Material

The compacted density of the backfill material shall be in accordance with Section 202 of the Standard Specification.

If the required compacted density cannot be achieved with the excavated material, G5 material will be imported and compacted to the required density for base layers.

Payment will be made under item 202.07 of the Standard Specifications and no haulage will be paid separately, but the rate for haulage must be included in item 202.07.

The Principal Contractor will be required to submit at least 3 lab tests for compaction, or as required by the Engineer, per block completed, one per driveway and two per road crossing. No payment will be approved if these tests have not been submitted and meet the required specification. Cost for the required test must be included in the rates. No additional payment will be done for the compaction tests.

C3.4.8.12 Reinstatement

All repairs to Kerbings, Interlocking Blocks, Paving Slabs and Bricks will be carried out by the contractor.

C3.4.8.12.1 General Issues regarding paving, concrete and kerbing repair work

- Work will only commence once the DCP tests have been received and approved.
- A dimensioned sketch of the repairs must be provided (on the job card) by the Contractor.
- All materials must comply with the relevant SANS specifications or as specified by the Engineer.
- The removal of all excess material, rubble, etc. to an approved dumping site, must be

included in the tendered rates and must be removed within 2 days from the work has been completed.

- No haulage will be paid separately but has to be included in tendered rates.
- Barricades must be erected on the perimeter of all areas where work is in progress, during curing time and to barricade any excess material.
- A quality control method must be submitted by the Contractor to control the repairs of concrete and paving. This quality control method must be approved by the Engineer.
- The Contractor needs to submit a photo attached to all job cards of the repair work before work is done and a photo of the completed job card from the same angle. Each photo must have the job card number clearly indicated on the photo.
- The Engineer will request random core drill test of any concrete work in order to verify the concrete strength. No additional cost will be paid for these tests and the contractor must allow for this in the tendered rates.
- The contractor must ensure that sufficient communication exists between the contractor and the municipality.

C3.4.8.12.2 Construction of Concrete on Projects

The repairs will be done in accordance with the Standard Specification of Municipal Engineering Works Series 6. At all conventional construction sites, it will be the responsibility of the Principal Contractor to ensure that the compaction of existing structures is in accordance with specifications and that concrete is cut square before any work can commence.

- The specified compressive strength of concrete must be 25 MPa.
- The concrete must be cut square/rectangular before repairs are carried out and any additional compaction needed must be done. No separate payment will be made for cutting. This must be included in the rate for the repairs of concrete.
- The texture and finishing of the concrete must be at least of the same standard as the existing concrete and must comply with the minimum acceptable standard or as specified by the Engineer.
- Concrete pavements will be painted according to section 806 of the Standard Specification for Municipal work if required.
- The concrete must have a minimum thickness of 100mm with the exception of parking areas and entrances where concrete must be at least the thickness of the adjacent concrete, but not less than 100mm.
- Joints in concrete pavement must be provided at positions and spacing as indicated by the Engineer or to match those of the existing concrete. All joint edges must be finished off with a nosing tool.
- On sidewalks a minimum length of 1m will be repaired.

The trench will be compacted up to the existing ground level. In order to repair the concrete, the top part of backfilling has to be removed, the cost for the haulage of this excess material to an approved dumping site has to be included in the tendered rates. No haulage will be paid.

No additional rate will be paid for travelling costs and these costs has to be included in tendered rate.

C3.4.8.12.3 Construction of Segmental Block Paving on Projects

The repairs will be done in accordance with the Standard Specification of Municipal Engineering Works Series 6. At all conventional construction sites, it will be the responsibility of the Principal Contractor to ensure that the compaction of existing structures is in accordance with

specifications before any work can commence. Where compaction is acceptable, the paving can be repaired. Refer to drawing STD008 1 of 1.

- A pre-cast or in-situ cast concrete edge restraint will be required at the edge of all driveways and sidewalks as specified on drawing STD008 1 of 1.
- The specified compressive strength of concrete must be 25 MPa.
- The texture and finishing of the concrete must be at least of the same standard as the existing concrete and must comply with the minimum acceptable standard or as specified by the Engineer.
- The bedding sand and sand for jointing must be according to section 609 of the Standard Specification of Municipal Engineering Works.
- The repaired paving must be at least of the same standard as the original paving and must comply with the minimum acceptable standard or as specified by the Engineer.
- The original blocks must be used for the repairs, if in good condition. If these original blocks are not available or are damaged new blocks of an approved similar design and finish must be supplied by the contractor.
- On sidewalks a minimum length of 1m will be repaired.

At all conventional construction site, the trench will be compacted up to the existing ground level. In order to repair the paving, the top part of backfilling has to be removed, the rates for the haulage of this excess material to an approved dumping site have to be included in the tendered rates. No haulage will be paid.

No additional rate will be paid for travelling costs and these costs has to be included in tendered rate.

C3.4.8.12.4 Kerbing

The repairs of all kerbing will be done in accordance with the Standard Specification of Municipal Engineering Works Series 5. Refer to drawing STD007 1 of 2.

1. Semi vertical kerbing

- Pre-cast kerbs fig 7 in SANS 927:1969 will be used.
- Pre-cast kerbing of at least the same standard as the existing kerbing must be used.

2. Slope kerbing

- Kerbings to be done in accordance with Drawing STD007 1 of 2.
- The texture and finishing of the concrete will be at least of the same standard as the existing concrete.
- The minimum length of kerbing to be repaired will be 1m.

Backfilling and compaction behind kerbing must be carried out accordance with the specification (series 6).

If the road surface has been repaired before the paving is done, the Principal Contractor will be responsible to fix the gap between the kerbing and the tar with premix bitumen. No additional rate will be paid for this; it has to be included in the tendered rate.

C3.4.8.13 Inspection at Intermediate Stages of Construction

The Principal Contractor shall call for an inspection of the works at the following intermediate

stages of construction:

- i) After completion of the trench excavation and preparation of the trench bottom; and before any pipe is laid.
- ii) After the selected backfill material has been placed around the pipe; and before the remainder of the trench is backfilled.

Work shall not progress through the specified stages without the approval of the Engineer or his representative on site.

Failure to comply with the provision of this clause shall result in the suspension of work for a period as determined by the Engineer.

C3.4.8.14 Extension of Time due to Unpredictable Weather Circumstances

Extension of time will not be considered for normal adverse weather conditions but only for abnormal rainfall or saturated conditions and will be calculated in accordance with Sub-Clause 42(6), Method 1 of the Special Conditions of Contract.

The rainfall records for Station 0513314 (Pretoria Forum) for the period 1961 to 1990 are given in the column below. The average values of Rn and Nn can be taken as the norm for this contract.

Month	Rn	Nn
January	136	4.4
February	75	2.5
March	82	2.4
April	51	1.8
May	13	0.5
September	7	0.3
July	3	0
August	6	0.2
September	22	0.7
October	71	2.2
November	98	3.5
December	110	3.7

C3.4.8.15 Disinfection of Pipelines

The Principal Contractor shall sterilize all mains as required by the Standard Specifications or as instructed by the Engineer.

C3.4.8.16 Standard Hydraulic Pipe Test

Complete pipelines shall be hydrostatically tested to a pressure of 1.5 times the working pressure or as instructed by the Engineer.

All material or equipment necessary to perform the hydraulic test must be supplied by the Principal Contractor and priced under 403.01.

All leaks shall be made good and any pipe, special or fitting found to be defective shall be removed and replaced at the Principal Contractor's expense.

C3.4.9 CONTRACTORS' EMPLOYEES

C3.4.9.1 Minimum employment Conditions for Conventional Construction Works

Contractors shall comply with the Basic Conditions of Employment Act (Act No 75 of 1997).

As a determination has not been made in terms of the aforesaid act for the building sector, the minimum employment conditions which will apply to this Contract shall be guided by the Amendment of Sectoral Determination 2: Civil Engineering Sector published in the Government Gazette dated 4th September 2012, as and when amended from time to time.

Contractors shall also take in consideration the clauses of the Government Gazette 39293 of 16 October 2015 regarding Bargaining Council for Civil Engineering Industry: Extension of Conditions of Employment amending collective agreements to non-parties.

The following minimum conditions shall apply to this Contract and Contractors shall include such conditions in employment contracts.

C3.4.9.1.1 Appointment of Community Liaison Officer (CLO)

1. After selection of the PSC, at the same meeting indicated under item C3.3.6.1.3, residents and stakeholders in attendance are to vote for poll of three (3) potential CLO's coming from the community concerned.
2. In the event that a PSC is not constituted by public meeting, or cannot proceed with its work, as contemplated by section 6.1.3.5 of the Framework, the appointed PSC will nominate potential CLOs.
3. It is from this pool that the contractor, after interviewing the three (3) nominees and consultation with the PSC appoints the CLO.
4. Administrative processes for appointment of Community Liaison Officers.
 - Minutes and an attendance register must be kept as evidence of the proceedings of the election meeting.
 - The office of the speaker must submit the results (minutes) and attendance registrar of the community liaison officer election meeting to the chairperson of the PSC, the contractor and the Expanded Public Works Programme (EPWP) Division.
 - The elected CLO will be appointed by the contractor for the duration of the project and also be remunerated by the contractor. Where the CLO is no longer available and another is appointed, the existing CLO shall cease to receive remuneration.

- An employment agreement containing the general terms and conditions of the contract, will be issued to the CLO and must be signed by the CLO before commencement of duties.
- A CLO will be appointed from the ward in which the project is executed.
- The CLO's will be remunerated according to the entry level basic salary of an Administrator Officer position of the City of Tshwane (Task Level 5 notch 1) No benefits will be applicable.

5. The CLO must have the following attributes: -

- have credibility and standing in the community.
- have a strong personality.
- be able to be firm and decisive.
- be able to facilitate in disputes.
- be able to handle conflict.
- be able to keep minutes and records in a proper and orderly way.
- have a knowledge of labour laws and industrial relations (training will be provided where necessary).
- be objective and impartial.
- be fair.

C3.4.9.1.2 Employment contracts

The Contractor shall enter into an employment contract with every one of his/her employees, including short-term contracts i.e. contracts in which employment commencement and employment termination dates are specified. Short-term employment contracts will also apply an employee employed for only one day.

C3.4.9.1.3 Normal working hours

Normal working hours are from 07:00 to 17:00 from Monday to Friday. A tea break is taken from 09:00 to 09:15 and lunch from 12:30 to 13:00.

Actual hours to work and be paid for is 9 hours per day. If a lunch break of one (1) hour is taken, then the normal working day will be as follow:

Morning work sessions from 07:00 to 12:00, lunch break from 12:00 to 13:00, and afternoon sessions from 13:00 to 17:00.

C3.4.9.1.4 Minimum wages

Minimum wages shall be according to the **Sectional determination for Civil Engineering works and annual increase shall be affected as and when new rates are gazetted**. For a full day's work, the hourly rate shall be multiplied by 9. Normal 5-day week hours of work shall be 45 hours and the wage calculated according to the applicable hourly rate.

Overtime pay shall be 1.5 times the ordinary wage.

Wages should be increased by CPI excluding owners' equivalent rent (eoe) plus two percentage points for the second and third years of the determination. The CPI to be used is the one that is published by StatsSA six weeks prior to the scheduled increment

date.

C3.4.9.1.5 Short time (excluding short time due to inclement weather)

If for reasons, which may be ascribed to the employee, e.g. arriving late for work or taking an afternoon off, the hours not worked shall be deducted from the daily wage calculation.

C3.4.9.1.6 Short time resulting from inclement weather.

- i. If the Contractor informs his/her employees that no work will be done the following day due to inclement weather, no payment will be due to the employee for such a day.
- ii. If the Contractor has not informed his/her employees that no work will be done due to inclement weather and no work or less than four (4) hours of work is possible during a day, the Contractor must pay the employee for four (4) hours of work. If more than four (4) hours of work is done, the Contractor shall pay the employee for the number of hours worked.

C3.4.9.1.7 Vacation leave

If an employee has been in full time employment for more than four (4) months, he/she shall be entitled to 1 day's paid leave for every seventeen (17) days the employee worked or was entitled to payment.

C3.4.9.1.8 Family responsibility leave

If an employee has been in full time employment for more than four (4) months, he/she shall be entitled to three days paid leave in a leave cycle of thirty-six (36) months of employment:

- i. When the employee's child is born
- ii. When the employee's child is sick
- iii. In the event of death of the employee's spouse or life partner, parent, grandparent, child or grandchild.

The employee shall provide the required proof to the Contractor of the event, failing which the leave shall be unpaid leave.

C3.4.9.1.9 Maternity leave

At least four (4) months unpaid leave.

C3.4.9.1.10 Sick leave

The employee shall be entitled to one (1) day's paid sick leave of normal wages for every twenty-six (26) days worked.

If an employee is absent for three (3) or more consecutive days, the employee shall provide a sick certificate from a registered medical practitioner to qualify for sick leave payment. If such certificate is not provided, no sick leave payment will be due to the employee.

C3.4.9.1.11 Piece work

Irrespective of the quantity of work done under a piece work system during a working week, the employee shall be entitled to a minimum of a week's wages determined as if no piece work applied.

The Contractor or employee may terminate an employment contract by giving notice of termination of not less than:

- i. On short period contracts i.e. a contract which states from which date work employment commences and on which day employment terminates, the terms of the employment contract shall apply;
- ii. One week if employee has been employed for four (4) weeks or less, unless it is a short-term project;
- iii. Two (2) weeks if employee has been employed for more than four (4) weeks but not more than one (1) year;
- iv. Four (4) weeks if employee has been employed for more than one year.

C3.4.9.2 Employment Conditions for Labour Intensive Works and Construction

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

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

C3.4.9.2.1 Terminology

- (a) "department" means any department of the State, implementing agent or contractor;
- (b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on an EPWP;
- (c) "workers" means any person working in an elementary occupation on an EPWP;
- (d) "elementary occupation" means any occupation involving unskilled or semi-skilled work;
- (e) "management" means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) "task" means a fixed quantity of work;
- (g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;

- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

C3.4.9.2.2 Terms of Work

- 2.2.1 Workers on a EPWP are employed on a temporary basis.
- 2.2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.
- 2.2.3 Employment on a EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance ACT 30 of 1966.

C3.4.9.2.3 Normal Hours of Work

- 2.3.2 An employer may not set tasks or hours of work that require a worker to work:
 - (a) more than forty-five hours in any week
 - (b) on more than five days in any week; and
 - (c) for more than nine hours on any day.
- 2.3.3 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- 2.3.4 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 45-hour week) to that worker.

C3.4.9.2.4 Meal Breaks

- i. A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- ii. An employer and worker may agree on longer meal breaks.
- iii. A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- iv. A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

C3.4.9.2.5 Special Conditions for Security Guards

- i. A security guard may work up to 55 hours per week and up to eleven hours per day.
- ii. A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

C3.4.9.2.6 Daily Rest Period

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

C3.4.9.2.7 Weekly Rest Period

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

C3.4.9.2.8 Work on Sundays and Public Holidays

- i. A worker may only work on a Sunday or public holiday to perform emergency or security work.
- ii. Work on Sundays is paid at the ordinary rate of pay.
- iii. A task-rated worker who works on a public holiday must be paid –
 - (a) the worker's daily task rate, if the worker works for less than four hours
 - (b) double the worker's daily task rate, if the worker works for more than four hours.
- iv. A time-rated worker who works on public holiday must be paid –
 - (a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday
 - (b) double the worker's daily rate of pay, if the worker works of more than four hours on the public holiday.

C3.4.9.2.9 Sick Leave

- i. Only workers who work more than 24 hours per month have the right to claim sick pay in terms of this clause.
- ii. A worker who is unable to work on account of illness or injury is entitled to claim one day's sick leave for every full month that the worker has worked in terms of a contract.
- iii. A worker may accumulate a maximum of twelve days' sick leave in a year.
- iv. Accumulated sick leave may not be transferred from one contract to another contract.
- v. An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- vi. An employer must pay a time-rated worker the worker's daily rate for a day's sick leave.
- vii. An employer must pay a worker sick pay on the worker's usual payday.
- viii. Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –

- a. absent from work for more than two consecutive days /or
 - b. absent from work on more than two occasions in any eight-week period.
- ix. A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- x. A worker is not entitled to paid sick leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Disease Act.

C3.4.9.2.10 Maternity Leave

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

C3.4.9.2.11 Family Responsibility Leave

- i. Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances –
 - a. when the employee's child is born
 - b. when the employee's child is sick

- c. in the event of a death of –
 - the employee's spouse or life partner
 - the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild, or sibling.

C3.4.9.2.12 Statement of Conditions

- i. An employer must give a worker a statement containing the following details at the start of employment –
 - a. the employer's name and address and the name of the worker
 - b. the tasks or job that the worker is to perform; and
 - c. the period for which the worker is hired or, if this is not certain, the expected duration of the contract.
 - d. the worker's rate of pay and how this is to be calculated.
 - e. the training that the worker will receive.
- ii. An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- iii. An employer must supply each worker with a copy of these conditions of employment.

C3.4.9.2.13 Keeping Records

- i. Every employer must keep a written record of at least the following –
 - a. the worker's name and position
 - b. copy of an acceptable worker identification
 - c. in the case of a task-rated worker, the number of tasks completed by the worker.
 - d. in the case of a time-rated worker, the time worked by the worker.
 - e. payments made to each worker.

C3.4.9.2.14 Monthly reporting

Contractors must report monthly on labour beneficiaries on the project and submit this with the monthly payment certificates. The beneficiary information records require:

- i. the name, surname, date of birth and a unique identity number,
- ii. gender, disability status,
- iii. education and literacy level,
- iv. daily wage to be received, and
- v. training attended.

On a monthly basis, contractors must confirm the number of people at work daily by maintaining daily site attendance registers that will be summarised into a monthly attendance register by the construction.

C3.4.9.2.15 Payment for the Labour-Intensive Component of the Works

- C3.4.9.2.15.1 Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for

such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

C3.4.9.2.15.2 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

C3.4.9.2.15.3 A task-rated worker will only be paid for tasks that have been completed.

C3.4.9.2.15.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

C3.4.9.2.15.5 A time-rated worker will be paid at the end of each month.

C3.4.9.2.15.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

C3.4.9.2.15.7 Payment in cash or by cheque must take place –

- (a) at the workplace or at a place agreed to by the worker;
- (b) during the worker's working hours or within fifteen minutes of the start or finish of work;
- (c) in a sealed envelope which becomes the property of the worker.

C3.4.9.2.15.8 An employer must give a worker the following information in writing –

- (a) the period for which payment is made;
- (b) the numbers of tasks completed or hours worked;
- (c) the worker's earnings;
- (d) any money deducted from the payment;
- (e) the actual amount paid to the worker.

C3.4.9.2.15.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

C3.4.9.2.15.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.4.9.2.16 Deductions

- i. An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- ii. An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- iii. An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- iv. An employer may not require or allow a worker to –

- a. repay any payment except an overpayment previously made by the employer by mistake.
- b. state that the worker received a greater amount of money than the employer actually paid to the worker; or
- c. pay the employer or any other person for having been employed.

C3.4.9.2.17 Health and Safety

- Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- A worker must –
 - a. work in a way that does not endanger his/her health and safety or that of any other person.
 - b. obey any health and safety instruction.
 - c. obey all health and safety rules.
 - d. use any personal protective equipment or clothing issued by the employer.
 - e. report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

C3.4.9.2.18 Compensation for Injuries and Diseases

- It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- A worker must report any work-related injury or occupational disease to their employer or manager.
- The employer must report the accident or disease to the Compensation Commissioner.
- An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.4.9.2.19 Termination

- The employer may terminate the employment of a worker for good cause after following a fair procedure.
- A worker will not receive severance pay on termination.
- A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the manager the employer in advance to allow the employer to find a replacement.
- A worker who is absent for more than three consecutive days without informing

the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available of the balance for the 24-month period.

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

C3.4.9.2.20 Certificate of Service

On the termination of employment, a worker is entitled to a certificate stating –

- the worker's full name;
- the name and address of the employer;
- the worker on which the worker worked;
- the work performed by the worker;
- any training received by the worker as part of the SPWP;
- the period for which the worker worked on the SPWP; and
- any other information agreed on by the employer and worker.

C3.4.9.3 Employment Conditions for Sub-Contractors

The City of Tshwane aims that each project issued by the Municipality focus on uplifting the community and ensuring that skills are transferred to the sub-contractors through the projects in and around Tshwane. In trying to implement this policy the appointed Contractor is required to subcontract 30% of this project to sub-contractors in accordance with the Preferential Procurement Policy Framework Act 2000, Preferential Procurement Regulation 2017 will be applicable to this appointment.

The contractor will be held responsible for appointing, managing and payment of the sub-contractors. The contractor will need to finance these payments to the sub-contractors.

C3.4.9.3.1 Terminology

“Employer” means the contract that hires Sub-contractor to work in elementary occupations on the project;

“Sub-contractor” means

- An EME or QSE
- An EME or QSE which is at least 51% owned by black people who are youth
- An EME or QSE which is at least 51% owned by black people who are women

Definitions:

- “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.
- “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.

“SC task” means a fixed quantity of work identified in the Schedule of Quantities as being

earmarked for Sub-contracting;

“SC task-based work” means work in which a Subcontractor is paid a fixed rate for performing a SC task;

C3.4.9.3.2 Terms of Work

The Contractor will be required to handle all communications and negotiations with the sub-contractors.

Sub-contractors are employed for a specific SC task as identified in the Schedule of Quantities and as per the rate by Sub-contractor.

A subcontractor will be employed for the duration of the SC task as per the Schedule of Quantities or as per the written agreement between the employer and the Sub-contractors.

Employment of a Sub-contractors does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

The Sub-contractors will need to adhere to the normal hours of work and conditions of employment as specified in the tender document.

The contractor will need to manage the sub-contractors and ensure that tasks are completed in accordance with the contract requirements.

C3.4.9.3.3 Statement of Conditions

An employer must give the Sub-contractors a statement containing the following details at the start of employment:

- (a) The employer’s name and address and the name of the project.
- (b) The tasks or job that the Sub-contractors is to perform.
- (c) The period for which the Sub-contractors is hired or, if this is not certain, the expected duration of the contract.
- (d) Supply of materials.
- (e) The training that the Subcontractors will receive during the project.

A copy of this written agreement between the employer and the Sub-contractors must be kept at the site office at all times. This agreement will be available to the Engineer should disputes or queries arise.

Each Sub-contractor should be given a fair chance to price the work area marked in the Schedule of Quantities for Sub-contracting. The employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

The contractor will need to use his own discretion when appointing a Sub-contractor and will need to ensure that the codes of “Best Practice” is adhere to at all times.

An employer must supply each Sub-contractor with a copy of these conditions of employment.

The employer will NOT be required to supply tools or any equipment to the sub-contractors.

C3.4.9.3.4 Keeping Records

Every employer must keep written record of at least the following:

- (a) The Sub-contractor's name and employment requirements.
- (b) In the case of a task-rated Subcontractors, the number of tasks completed by the Sub-contractors.
- (c) In the case of a time-rated Sub-contractors, the time worked by the Sub-contractors;
- (d) Payments made to each Sub-contractor.

The employer must keep this record for a period of at least three years after the completion of the project.

C3.4.9.3.5 Payment for the Subcontracting component of the works

Payment for works identified in the Schedule of Quantities as being "SC" shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the contractor in any way from his obligations either in contract or in delict.

An employer must pay the sub-contractors on a fortnightly (2 week) cycle in cash or by cheque or into a bank account.

A Sub-contractor's worker will only be paid for the portion of the tasks or the task that have been completed as per the agreement.

An employer must give the Sub-contractors the following information in writing:

- (a) The period for which payment is made.
- (b) The LIC tasks completed.
- (c) The Subcontractor's earnings;
- (d) Any money deducted from the payment.
- (e) The actual amount paid to the sub-contractor.

If the sub-contractor is paid in cash or by cheque, this information must be recorded on the envelope and the subcontractor must acknowledge receipt of payment by signing for it.

If a sub-contractor's employment is terminated, the employer must pay all monies owing to that sub-contractor within two weeks of termination of employment.

Should the employer be found guilty of failing to pay the sub-contractor on time the employer will be subject to paying a penalty of R1000/day. This money will be payable to the Client.

C3.4.9.3.6 Deductions

An employer may not deduct money from a sub-contractor's payment unless the deduction is required in terms of a law.

An employer must deduct and pay to the SA Revenue Services any income tax that the sub-contractor is required to pay.

An employer who deducts money from a sub-contractor's pay for payment to another party must pay the money to that person within the time period and other requirements specified in

the agreement, law, court order or arbitration award concerned.

An employer may not require or allow a sub-contractor to –

- (a) Repay any payment except an overpayment previously made by the employer by mistake;
- (b) State that the sub-contractor received a greater amount of money than the employer actually paid to the sub-contractor; or
- (c) Pay the employer or any other party for having been employed.

C3.4.9.3.7 Health and Safety

Employers must take all reasonable steps to ensure that the subcontractor environment is healthy and safe. The sub-contractor needs to adhere to all EMP requirements of the employer.

C3.4.9.3.8 Termination

The employer may terminate the employment of a sub-contractor for good cause after following a fair procedure.

A sub-contractor will not receive severance pay on termination.

A sub-contractor will be required to give notice to terminate employment. Notice to terminate employment should be made at least two weeks in advance to allow the employer to find a replacement.

C3.4.9.3.9 Certificate of Service

On the termination of employment, a sub-contractor is entitled to a certificate stating –

- (a) The sub-contractor’s full name;
- (b) The name and address of the employer;
- (c) The tasks on which the sub-contractor worked or completed;
- (d) The work performed by the sub-contractor under the project;
- (e) Any training received by the sub-contractor was employed;
- (f) The period for which the sub-contractor was employed; and
- (g) Any other information agreed on by the employer and local sub-contractor.

C3.4.9.4 Labour Intensive Competencies of Supervisory and Management Staff

Established contractors shall only engage supervisory and management staff in labour intensive works who have either completed or are registered for training towards, the skills programme outlined in Table 1.

Emerging contractors shall have personally completed or be registered on a skills programme for the NQF level 2-unit standard. All other site supervisory staff in the employ of emerging contractors must have completed or 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	Unit standard titles	Skills programme
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	level		description
Team leader/ supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	any one of these 3-unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	any one of these 3-unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent/ Manager (i.e the contractor's most senior representative that is resident on the site.	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

Details of these skills programmes may be obtained from the CETA ETQA Manager (e-mail: Gerard@ceta.co.za, tel: 011 265 5900).

C3.4.9.5 Employment of Unskilled and Semi-Skilled Workers in Labour-Intensive Works

C3.4.9.5.1 Requirements for the Sourcing and Engagement of Labour

C3.4.9.5.1.1 Unskilled and semi-skilled labour require 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.

C3.4.9.5.1.2 The rate pay set for the EPWP is R383.12 per task or per day. The published rate will receive an ATB increase of CPI plus 0.75% of the current rate.

C3.4.9.5.1.3 Tasks established by the contractor must such that:

- (a) the average worker completes 5 tasks per week in 45 hours or less; and
- (b) the weakest worker completes 5 tasks per week in 55 hours or less.

C3.4.9.5.1.4 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 5.1.3.

C3.4.9.5.1.5 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:

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

C3.4.9.5.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- (a) 40% women;
- (b) 20% youth who are between the ages of 18 and 35; and
- (c) 2% on persons with disabilities.

C3.4.9.5.2 Specific Provisions Pertaining to SANS 1914-5

C3.4.9.5.2.1 Definitions

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

C3.4.9.5.2.2 Contract participation goals

5.2.2.1 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.

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

programmes.

C3.4.9.5.2.3 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.

C3.4.9.5.2.4 Variations to SANS 1914-5

5.2.4.1 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.

4.2.4.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities.

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2022/23

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENSION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.5 MANAGEMENT

C3.5 MANAGEMENT

C3.5.1 Construction Programme

The Contractor shall submit within the period stated in the Contract Data a suitable and realistic construction programme for the consideration of the Engineer.

The programme shall be in the form of a Gantt chart and shall include the following details:

- A work breakdown structure, identifying the major activity groups.
- For each activity group further details shall be provided with regard to the scheduled start and end dates of individual activities.
- The linkages between activities shall be clearly indicated and the logical network upon which the programme is based shall be separately submitted to the engineer if requested. Any constraints shall be classified as being time-related or resource-related.
- The critical path(s) shall be clearly indicated and floats on non-critical activities shall be shown.
- The Contractor shall indicate the working hours per day, night, week, and month allowed for in the programme.
- Where relevant the Contractor shall state the production rates for key activities, e.g. earthworks, etc.

Together with the programme as detailed above the contractor shall submit to the engineer a cash flow projection, indicating projected monthly invoice amounts. The cash flow projection shall be updated at monthly intervals to reflect actual payments to date and anticipated further payments.

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity that has fallen behind. The updated programme shall be submitted to the Engineer at least two days prior to the monthly meetings.

If the programme has to be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing how he intends to regain lost time in order to ensure completion of the Works within the time for completion as defined in Clause 42 of the General Conditions of Contract or any granted extension of time. Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on site, or by using the available labour and plant on site, or by using the available labour and plant in a more efficient manner.

Failure on the part of the Contractor to submit the programme or to work according to the programme or revised programmes shall be sufficient reason for the Engineer to take steps as provided in Clause 55 of the General Conditions of Contract.

The approval by the Engineer of any programme shall have no contractual significance other than that the Engineer will be satisfied that the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme if required by circumstances. The Contractor is also referred to Clause 12 of the General Conditions of Contract when drawing up his programme.

C3.5.2 Sequence of the works

The sequence of the works shall be such that the Contractor adhere to a three-block construction system (with a block not longer than 150m). This system concentrates construction in a specific area to ensure quick and effective completion of all construction activities. Before moving to a fourth block, the first block must be completed and a certificate for practical completion issued by the Engineer.

C3.5.3 Accommodation of traffic

The following contain the Employer's general requirements for accommodating the traffic during construction:

The travelling public shall have the right of way on public roads and the contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

Failure to maintain road signs, warning signs, etc, in a good condition shall constitute ample reason for the engineer to bring the works to a stop until the road signs, etc, have been repaired to his satisfaction.

The contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual Volume 2 Chapter 13.

The contractor shall submit proposals in connection with directional signs to the engineer for approval prior to construction.

Sufficient signage shall be provided, erected and relocated as necessary by the contractor to reroute traffic onto the deviations. It is proposed that traffic is deviated as follows:
See Volume 2 : Drawings.

Each team working on this contract will need to have a competent person who will be responsible for the setting out of the road signs daily. Proof accredited of training will need to be provided to the CoT before any team will be allowed to start work.

C3.5.4 Extension of time on account of abnormal rainfall

Extension of time due to abnormal rainfall shall be determined by means of Method 1 using the rainfall records below (it should be noted that all works will be executed inside existing valve chamber and rain delays should be minimal).

STATISTICAL INFORMATION: [0513465 1] PRETORIA UNIV PROEFPLAAS	
	RAINFALL

Month	Nn = Actual number of days during the calendar months in which a rainfall of more than Y-mm has been received	Rn = Average monthly rainfall
January	3.4	116.1
February	3.2	117.0
March	3.4	100.7
April	1.3	33.0
May	0.5	21.2
June	0.1	4.7
July	0.0	0.4
August	0.1	3.4
September	0.3	11.6
October	1.9	61.7
November	3.3	100.7
December	4.3	120.2
TOTAL	21.8	690.7

3.5.4 Community participation

Community participation consists of engagement of Project Steering Committees (PSC). A PSC will be established for the town by the Ward Councillor. The functions of the PSC will be to:

- Assist in monitoring the project.
- Ensure that the community provide assistance to the contractor to ensure that he can execute the contract in accordance with the specifications and within time.
- Encourage the community to participate in the Labour-Intensive construction.
- Identify skills, skilled personnel and suppliers in the towns.

The PSC will not have the power to:

- Give any instructions to the contractor, except through the engineer.
- Become involved in the daily operations of the contractor or interfere with the contract works.

A monthly meeting will be held with the PSC to discuss relevant matters. The site agent and resident engineer will attend the meetings. The contractor will have to report on progress, deviations from the programme, financial matters community related aspects, general problems, and co-operation at the meeting. The PSC members will not receive any remuneration for attending, and they must provide their own transport.

The committee, which may be chaired by the Ward Councillor, shall consist of representatives of:

- (a) The Ward Councillor(s)
- (b) The Client
- (c) The Engineer
- (d) The Contractor
- (e) The CLO(s)
- (f) Members of Ward Committees nominated by Ward Councillor(s)

(g) Local Security Company

- The Community Liaison Officer shall manage the labour desk and will have regular meetings with the Contractor where all construction and labour matters will be addressed. Some of the role players will only attend these meetings on an ad hoc basis as needed.
- The Local Security Company shall be responsible for the safekeeping of all plant, materials, construction equipment and all personnel employed on the project, 24 hour a day, seven days a week from site handover to project completion.
- The following aspects will have to be clarified by the labour desk before any person is engaged in construction work:
 - Contract of Employment
 - Type of Work
 - Duration of appointment
 - Workman's Compensation
 - Tax deduction
 - Insurance (UIF)
 - Wages and bonus and overtime regulations
 - Production pay-rate per unit of production
 - Working hours
 - Start and end times of a daily shift
 - Lunch breaks
 - Company policy regarding:
 - Rain time
 - No work no pay
 - Disciplinary policy
 - Grievance policy
 - Method of payment and intervals
 - Safety equipment where applicable
- The appointment of any local labour under this project will be the responsibility of the main contractor. All employee/employer issues will be ruled by the statutory labour relations' regulations as well as per the relevant contractual clauses.

C3.5.5 Construction management service requirements

The Contractor shall appoint a Construction Manager whose duties will be to provide construction management and materials management services to the project.

C3.5.5.1 General

The construction manager shall, in order to achieve the employer's objectives stated in Clause 3.1.1, Description of Work,

- a) comply with agreements made with the employer and the local community, if any, monitor and report on project expenditure and costs and construction progress, and co-ordinate site activities,
- b) advise, assist and train the supported contractor on the job in terms of the contract between the employer and the supported contractor and, if so, required in the specification data, arrange for the supply of certain items of equipment and the supply and delivery to site of

- materials,
- c) remain impartial in his dealings with the employer and the supported contractor,
 - d) engage, on behalf of and with the approval of the employer, specialist contractors to execute parts of the works and coordinate the work of supported contractors and the specialist contractors,
 - e) cooperate with other professional service providers appointed by the employer,
 - f) visit the site at appropriate intervals during the various stages of construction in order to confirm that the supported contractor is making satisfactory progress, that he shows technical competence in the execution of all aspects of the works and generally fulfils all contractual obligations,
 - g) provide continuous support to the supported contractor in order to ensure that the employer's objectives are achieved,
 - h) operate within any structured framework developed by the employer to enable interim payments to be made to supported contractors within relatively short time frames,
 - i) provide site facilities for the employer and his agents, as provided for in the specification data,
 - j) ensure the economic and efficient use of all plant and, to this end, maintain adequate records of plant usage,
 - k) maintain detailed records of all costs relating to the construction of the works including those relating to the provision of construction management services, and report to the employer at intervals not exceeding one month on the financial status of the contract, and
 - l) assist supported contractors in registering with a public body, if required, in terms of the specification data.

C3.5.5.2 Construction stage requirements

C3.5.5.2.1 General

Following the award of the contract to the supported contractor, the construction manager shall, as a minimum,

- a) attend site and coordination meetings conducted by the employer and his agents,
- b) arrange weekly or fortnightly site progress meetings with the supported contractor and record and distribute the minutes thereof,
- c) liaise with the employer at coordination meetings at regular, agreed intervals and keep him fully informed regarding all aspects of the supported contractors' contracts,
- d) confirm insurance arrangements, notify insurers of all claims and ensure that all insurance policies are maintained,
- e) bring to the attention of the employer without delay any deficiencies in materials or in work performed by the supported contractor and follow up corrective actions which might be prescribed,
- f) inspect all exposed services, report in writing any damage to the employer and, subject to the approval of the employer, take the necessary action to have the damage repaired,
- g) implement and monitor approved security arrangements and recommend and implement changes which might be necessary, where required by the employer in terms of the specification data, arrange for the supply and erection of suitable name boards,
- h) maintain and update the assets register,
- i) monitor the progress of the supported contractor and submit monthly progress reports to the employer which provide information relating to,
 - I. progress in relation to the programme,
 - II. costs incurred in respect of materials, labour, plant, transport, specialist contractors and construction management services,

- III. the actual cash flow compared with the predicted cash flow,
 - IV. expected savings or excess expenditure,
 - V. site meetings,
 - VI. details of plant hired, including standing-time charges, breakdowns and reasons for the use thereof, and
 - VII. details regarding the theft of materials issued to site,
- j) coordinate and monitor the activities of the supported contractor and others involved in the works,
 - k) maintain all necessary site records and documentation including those pertaining to personnel on site, equipment, progress, deliveries of materials to supported contractors, variations to their respective contracts, quantities of work executed, etc.,
 - l) ensure that the supported contractor implements a systematic testing programme,
 - m) review and monitor the supported contractor's quality control systems,
 - n) establish and maintain a list of defects and ensure that these are remedied,
 - o) brief supported contractors on health and safety requirements, and
 - p) verify claims for payment to supported contractors and other parties in accordance with the provisions of the contract.
 - q) Provide a full-time **Site Agent**.

C3.5.5.2.2 Advice and assistance to the supported contractor

The construction manager shall, as a minimum,

- a) process and resolve supported contractors' queries regarding the interpretation of drawings, specifications and contractual matters pertaining to their respective contracts,
- b) motivate and guide supported contractors and, where necessary, recommend measures to expedite their progress,
- c) assist supported contractors with
 - I. the preparation and updating of a realistic and achievable programme,
 - II. the setting out of the works,
 - III. the management, administration and employment of their work forces,
 - IV. the performance of their contracts,
 - V. all registrations required in terms of legislation and all applicable taxes and levies,
 - VI. the preparation of payment certificates,
 - VII. the handing over of the works to the employer upon completion, and
 - VIII. liaison with external organizations and the local community with regard to the works, and
- d) advise the supported contractor on safety measures which shall be implemented in order to comply with safety legislation.

C3.5.5.2.3 Training

The construction manager shall, as a minimum,

- a) teach the supported contractors how to assess and order materials required for incorporation into the works;
- b) train, advise and guide supported contractors both in-house and on the job with regards to the following aspects of the contract:
 - I. the basic work techniques required to perform the contract.
 - II. the need to develop communication skills.
 - III. what is expected of a supported contractor.
 - IV. health and safety requirements.

- V. the need to execute appropriate tasks correctly the first time.
 - VI. how to submit claims for payments.
 - VII. how to control and motivate their workforces.
 - VIII. the necessity for planning.
 - IX. how to prepare and use construction programmes.
 - X. the relationship between tender pricing, productivity and profit; and
 - XI. payment procedures for payments required in terms of the law, including all applicable taxes and levies; and
- c) act generally as a mentor to the supported contractor and facilitate, when appropriate, training of the supported contractor by other organizations.

C3.5.5.2.4 Tools and equipment

The construction manager shall, as a minimum,

- a) advise supported contractors regarding their hand-tool requirements and assist them with the procurement thereof;
- b) arrange for the timeous supply and cost-effective use of items of equipment and plant required for the execution of the works which supported contractors are not, in terms of their contracts, required to provide;
- c) arrange for the supply of calibrated testing equipment to supported contractors, as required, and ensure that tests are properly carried out and the results forwarded to the relevant parties that require such information; and
- d) arrange for the supply of all fuel and power required for the operation of power-driven equipment and tools.

C3.5.5.2.5 Materials (where materials management services are provided to supported contractors)

The construction manager shall, where a materials manager has been appointed, as a minimum,

- a) provide the materials manager with a programme of materials requirements, based on the programmes of supported contractors, at the commencement of their respective contracts and update such programmes as necessary;
- b) review supported contractors' requests for materials, adjust quantities, if necessary, and forward orders timeously to the materials manager;
- c) arrange with the materials manager for the delivery of materials direct to the site, where necessary;
- d) where required, collect materials from the materials manager's store and deliver to the site;
- e) monitor and approve the overnight storage of unused materials on the site by supported contractors or, should such materials not be suitable for overnight storage on site, arrange for their return to the store;
- g) determine appropriate allowances for tolerances and wastage on items where such allowances are not laid down in the supported contractor's scope of work; and
- h) reconcile quantities of materials issued to supported contractors with quantities used in the works and issue a materials reconciliation certificate to supported contractors upon completion of the works.

3.5.5.2.6 Post-construction stage requirements

After the completion of the works associated with supported contractors' contracts, the construction manager shall, as a minimum,

- a) compile a completion report that includes -
 - the final cost of the works in respect of materials, labour, plant, transport, supervision and construction management services;
 - the time of completion relative to the programme;
 - the nature and extent of training received by the supported contractor;
 - details of damage to services and insurance claims;
 - details of the construction manager's staff and organizational structure, equipment purchased for the contract and establishment costs; and
 - details of actual expenditure compared with projected expenditure;
- b) monitor remedial work undertaken during the defects liability period and advise and assist the supported contractor as necessary; and
- c) return, if required, to the employer or dispose of in accordance with the employer's instructions, all items of equipment on the register of assets.

C3.5.6 Materials management service requirements

C3.5.6.1 General

The materials manager shall, in order to achieve the employer's objectives,

- a) procure, store and issue materials for incorporation into the works either to the construction manager, who will deliver such materials to the place of work or directly to the supported contractor,
- b) establish a stores facility which is capable, at short notice, of supplying all the materials required for the project in a reliable, efficient and cost-effective manner,
- c) establish and implement management procedures and systems for procuring, storing, issuing and accounting for materials that:
 - I. take cognizance of specific storage requirements for individual materials,
 - II. comply with the employer's procurement policies and procedures,
 - III. provide for quality checks upon delivery,
 - IV. provide for the processing and timeous payment of statements for materials supplied and the delivery of materials to site,
 - V. account for the quantities of materials that are procured, stored and issued to or on behalf of each individual supported contractor,
 - VI. ensure that records are readily auditable and protect the employer against corruption and theft, and
 - VII. allow the employer to be informed monthly as to the status of all aspects of the materials management,
- d) ensure that all possible trade and settlement discounts are obtained and that the most favourable prices are paid for materials, and
- e) ensure that all materials purchased and issued comply fully with the employer's specifications embodied in the scope of work of the supported contractors' contract or in the contract with the employer.

Contract: WS 19 2022/23 Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required

Part C3: Scope of work

Section: C3.6: Particular specifications and variations and additions to the standard specifications

CITY OF TSHWANE

WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2022/23

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENTION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.6 PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

C3.6 PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

The following references from, and variations and additions to the Standard Specifications will be valid for this Contract.

The clauses and pay items in this portion of the Particular Specifications are numbered "B" followed by a number corresponding to the number of the relevant clause or pay item in the Standard Specifications. New clauses and pay items not covered by clauses or pay items in the Standard Specifications, if included here, are also designated "B" followed by a number. These numbers follow on the last clause or pay item number used in the relevant section of the Standard Specifications.

SECTION 001: GENERAL REQUIREMENTS AND CHARGES

Standard Specifications:

B12: Services required by Contractor

Add the following:

"The Contractor is responsible for obtaining and distributing water and electricity that is necessary for household and construction purposes at his own cost."

B13: Protection of Existing Services

B13.01: General

Add the following:

"The Contractor must ascertain himself of the requirements laid down by the different service providers when work is done near the particular services."

B17: Safe Working Conditions

Add the following:

"The Contractor shall display on a prominent place the following emergency numbers:

- | | | | |
|----|--------------------|---|----------------------------------|
| a. | Local Police | - | Telephone number |
| b. | Local Ambulance | - | Telephone number |
| c. | Local Fire Brigade | - | Telephone number |
| d. | Nearest Doctor | | |
| | i) | | Name |
| | ii) | | Telephone number (office hours) |
| | iii) | | Telephone number (after hours) |
| | iv) | | Consulting room street address" |

B001.01 Preliminary and General Charge

Add the following:

Over and above the normal requirements as specified, provision need to be made for a permanent

EPWP sign boards, in addition to the Contract Name Board. EPWP branding must be part of the sign boards. These boards will remain on site after completion of the contract to indicate that the service provided was done according to the EPWP guidelines. See **Part 7 : Additional Documents** for particulars about the EPWP sign board. All labourers will be required to wear EPWP branded orange overalls.

Measurement and Payment:

B001.01 Preliminary and General Charge

Change the following:

"Item	Description	Unit
B001.01.01	Fixed Charges	Month/per project

The unit of measurements shall be in months per project over the three-year period.

The tendered rates under sub item 001.01.01 shall represent that part of the contractor's fixed charges for the completion of each project within the three-year period. The number of months payable shall only be the number of months the contractor shall be employed on a project. No fixed charges shall be paid to the contractor if his services are not required within the three-year period. The monthly rate will be for each project done per month.

Remove the following:

- (c) The Contractor's establishment on site

Change the following:

"Item	Description	Unit
B001.01.02	Time Related Charge	Month/per project

The unit of measurements shall be in months per project over the three-year period.

The tendered rates under sub item 001.01.02 shall represent that part of the contractor's preliminary and general charges which is related to the time required for the completion of each project within the three-year period. The number of months payable shall only be the number of months the contractor shall be employed on a project. No time related charges shall be paid to the contractor if his services are not required within the three-year period. The monthly rate will be for each project done per month.

B001.01.03 The Contractor's establishment on site

Add the following:

"Item	Description	Unit
B001.01.03	The Contractor's establishment on site	Number

The unit of measurement shall be the number of projects on which the Contractor is obligated to establish a site camp.

The Tendered rates shall include full compensation for the establishment of a site camp and the charges incurred as per clause 29 of section 001 in the standard specifications for municipal civil engineering works, third edition 2005.

B001.02: Locating existing services

Add the following:

“Item	Description	Unit
B001.02	Location of existing services by locaters (detecting machine) (Depth and position)	m

The unit of measurement shall be the length of pipe to be located and service to be located on both side of the road. This pay item shall be used if and when other Departments, Divisions and Sections or Water Depots require pipe or cable locating.

The tender rate for locating existing service shall include full compensation for using an electronic locator, supplied by the Contractor, transporting to the point of use, locating existing services, locating and marking the position of the services, and the cleaning and tidying of the workplace after completion of the work. The rate will be for the length of the pipe to be installed irrespective of the length of services scanned.”

B001.03: Excavate by hand to expose existing services, and backfill

Add the following:

“Item	Description	Unit
B001.03	Excavate by hand to expose existing services, and backfill	Per inspection hole

The unit of measurement shall be per inspection hole.”

B001.04.01: Provision of a Health and Safety plan

Change the following:

“Item	Description	Unit
B001.04.01	Provision of a Health and Safety plan	Lump sum/per project

The lump sum tendered per project shall include full compensation for the provision and maintenance of a health and safety plan, risk assessment, permit applications and notifications as called for in the act and regulations for both the main contractor and subcontractors.

Eighty per cent (80%) of the amount will be paid when an approved health and safety plan has been received by the client. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

The payment for provision of a Health and Safety plan will be made per project.”

B001.04.02: Provision of a Health and Safety file

Change the following:

“Item	Description	Unit
B001.04.02	Provision of a Health and Safety file	Lump sum/per project

The lump sum tendered per project shall include full compensation for the provision and maintenance of a health and safety file on site containing all the documentation required in terms of the act and applicable regulations for both the main contractor and subcontractors.

The payment will be made in four equal instalments when the value of all permanent work done, excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be made when a consolidated health and safety file is handed to the client on completion of the works.

The payment for provision of a Health and Safety file will be made per project.”

B001.04.03: Provision of a construction supervisor

Change the following:

“Item	Description	Unit
B001.04.03	Provision of a construction supervisor	per month/per project

The lump sum tendered shall include full compensation for the provision of one or more competent and experienced construction supervisors per project as may be necessary for the duration of the construction work.

The payment for a construction supervisor will be made per month per project.”

B001.04.04: Provision of a safety officer (full-time)

Change the following:

“Item	Description	Unit
B001.04.04	Provision of a safety officer (full-time)	per month/per project

The lump sum tendered shall include full compensation for the provision of a competent and experienced safety officer, full-time per project, for the duration of the construction work.

The payment for a full-time safety officer will be made per month per project.”

B001.04.08 Implementation of Health and Safety Plan

Add the following:

“Item	Description	Unit
B001.04.08	Implementation of Health and Safety Plan	Lump Sum/per project

The tendered lump sum shall include **health and safety training, provision of personal protective clothing and equipment, provision of safety fences, signs and barricades** and other obligations not specifically covered here for the main contract and subcontractors appointed on this contract.

Price the item to allow for all labourers on site to wear the necessary protective clothing including an orange overall. All labourers must also wear a bright reflected jacket over their overall. On the front of the jacket (coat) the “City of Tshwane” name must appear with the CoT logo. On the back the letters “EPWP” must appear. The contractor needs to provide personnel with an identification card in order to ensure that everybody on site can be identified at all times. All vehicles and plant will have stickers on, that indicates that the contractor is appointed by CoT to execute the work.

The payment will be made pro-rata related to the time.”

B001.05 Community Liaison Officer

Change the following:

Item	Description	Unit
B001.05	Community Liaison Officer	per month/per project

The tendered rate shall include full compensation for the appointment of a community liaison officer for the duration of the construction works per project allocated to the contractor.

Payments shall be made in monthly instalments for the number of months each community liaison officer is employed. Rate will be the City of Tshwane’s minimum T5 monthly notch include a 10% mark-up fee for the contractor. Annual rate increase depends on annually approved City of Tshwane salary increase.

B001.09 Appointment of Local Security Company

Add the following:

Item	Description	Unit
B001.09	Appointment of Local Security Company	per month / per site

The rate tendered shall include full compensation for the appointment of a Local Security Company for the duration of each project.

Payments shall be made per month per site, upon proof of payment to the Local Security Company. In the event of the construction period exceeding the tendered completion period and no extension of time been granted, the Contractor shall still pay the Local Security Company the specified remuneration, but shall not be reimbursed, therefore. The rate will make provision for security at each project site. A minimum of one security guard at daytime and a minimum of two security guards at nighttime are required.

B001.11 Print, supply, distributions and removal of water interruptions notice color printed

Add the following:

Item	Description	Unit
B001.11	Print, supply, distributions and removal of water interruptions notice color printed	
	.01 Color printed on Correx	m ²
	.02 A5 flyers	each

The tendered rate shall include full compensation for the supply, printing, distributing flyers and the placing of posters on the appropriate lamp poles as requested by the Engineer. The transporting, labour and removal of posters must also be included in the tendered rates. Posters and flyers must be distributed two working days prior to the water interruption and must be removed within 2 days after the interruption. Schools, hospitals, old age homes, retirement villages, shops and office buildings must sign for receiving this notification and proof must be submitted to the CoT before the date of interruption.”

B001.12 Penalties to apply

Add the following:

“A penalty of R500 per job card will apply if any of the information submitted on the water meter job

card is incorrect. A penalty of R2,500 per day must apply for the late completion of work. That is the work that was not completed within the specified appointment date. Penalty of R300 per day will apply for the late submission of a water meter job card. Information must be accurate and submitted back to the Depot within 5 days for the date that the water meter was installed on site.

The penalties per non-conforming in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act will apply. For the purpose of this clause, every failure to conform to the Occupational Health and Safety Act must be regarded as a separate breach.

Listed non-conformance is:

Serious violations:

- Hazardous chemical/oil spill and/or dumping in non-approved sites.
- Damage to cultural and historical sites.
- Unauthorised blasting activities.
- Transportation of workers in an unsecure vehicle (transporting tools, equipment and material)

- Traffic accommodation. (For the purpose of this clause, every failure to conform to the South African Road Traffic Act 93 Of 1996 and Road Traffic Regulations of 2000 must be regarded as a separate breach.)
 - Insufficient Road signs.
 - Unavailability of flag personnel.
 - Improper road signs layout.

- No OHS Officer appointed by the contractor.
- Failure to correct OHS file notices within 7 days.

The engineer's decision with regard to what is considered as a violation, its seriousness and the penalty imposed shall be final.

Less serious violations:

- Littering on site.
- Lighting of illegal fires on site.
- Persistent or un-repaired fuel and oil leaks.
- Dumping of material in side drains.
- Possession or use of intoxicating substances on site.
- Any vehicles being driven in excess of designated speed limits.
- Urination and defecation anywhere except in designated areas.

PPE (Personal Protective Equipment):

- Failure to issue PPE to Employees.
- Non usage of PPE issued.

Unsafe Acts:

All unsafe/ practices on site e.g;-

- Boarding on/off moving vehicle or plant.
- Talking with a cell phone while operating a plant.
- Smoking near hazardous chemicals

Add the following:

Item	Description	Penalty Rate	Unit
001.12	PENALTIES TO APPLY		
	.01 Where incorrect water meter data has been submitted to CoT	R500	per incorrect job card
	.02 The late completion of the Works	R2 500	Per day
	.03 Non-conforming in terms of the Construction Regulations		
	.01 Hazardous chemical/oil spill and/or dumping in non-approved sites.	R10 000	per incident
	.02 Damage to cultural and historical sites.	R5 000	per incident
	.03 Unauthorised blasting activities	R5 000	per incident
	.04 Transportation of workers in an unsecure vehicle (transporting tools, equipment and material)	R5 000	per incident
	.05 Insufficient road signs or unavailability of flag personnel or improper road signs layout	R5 000	per incident
	.06 No OHS Officer appointed by the contractor	R10 000 + work stoppage	per incident
	.07 Failure to correct OHS file notices within 7 days	R5 000	per incident
	.08 Littering on site	R1 000	per incident
	.09 Lighting of illegal fires on site	R1 000	per incident
	.10 Persistent or un-repaired fuel and oil leaks	R1 000	per incident
	.11 Dumping of material inside drains	R1 000	per incident
	.12 Possession or use of intoxicating substances on site	R1 000	per incident
	.13 Any vehicles being driven in excess of designated speed limits	R1 000	per incident
	.14 Urination and defecation anywhere except in designated areas	R1 000	per incident
	.15 Failure to issue PPE to Employees	R5 000	per incident
	.16 Non usage of PPE issued	R500	per incident
	.17 All unsafe/ practices on site e.g.:- : • Boarding on/off moving vehicle or plant. • Talking with a cell phone while operating a plant. • Smoking near hazardous chemicals	R500	per incident
	.04 Unnecessary damage or unauthorised removal of trees	R3 000	per tree
	.05 Late submission of monthly progress reports	R3 000	per month

“A penalty will be applied in accordance with the Specifications and Project Specifications. Penalties will be deducted from the payment certificate monthly.”

SECTION 002: ENGINEER'S ACCOMODATION

B02: Office and Laboratory Accommodation

B02.01 General Requirements

"Laboratories are not required on the terrain"

B03: Housing

Housing is not required.

SECTION 101: SITE CLEARING AND GRUBBING

Standard Specifications:

B06: The cutting of trees

B06.03: Preservation of trees

Add the following:

"The fine for unnecessary damage or unauthorised removal of trees is R3 000.00 (three thousand rand) per tree."

Measurement and Payment:

B101.01.02: Strips 3m wide

Add the following:

If any paving is to be removed to place the new water pipeline in position the rate for the breaking out and removal of the paving shall be claimed under item B101.01.02 in the Schedule of Quantities. No clearing and grubbing will be paid where the new pipelines are to be laid on the sidewalk (area between the road and the erf boundary fence).

It must be noted that the area between the erf boundary and the road must be clean, with no stones or rocks, which can damage any machine used to cut the lawn.

SECTION 102: ACCOMMODATION OF TRAFFIC

Add the following:

"A penalty of R1,000.00 per no conforming of temporary traffic control will be charged."

Measurement and Payment:

Add the following:

"Item	Description	Unit
B102.14.01:	Flagmen	per month / per project

The tendered rate for this item shall include full compensation for all trained flagmen (accredited flagmen with certificates as proof of training) who may be required to control traffic by way of flags or portable STOP and GO-RY signs and include the provision of flags. Payment will be made per month irrespective of the number of projects in process at one time."

B102.14 Temporary traffic-control facilities

Measurement and Payment:

B102.14: Temporary traffic-control facilities

Add the following:

“The tendered rate shall include full compensation for the dismantling, storing if necessary, transporting and re-erecting for the entire contract period in a fresh position of the various items specified in item 102.14.”

SECTION 103: OVERHAUL

Standard Specifications:

B02.04: Overhaul distance

Add the following:

“Payment for overhaul is not applicable to this contract.”

SECTION 104: LANDSCAPING AND GRASSING

Measurement and Payment:

B104.01.02: Hand Trimming

Add the following:

“All hand trimming will be done to such an extent that no stone or any material that can damage a lawn mower be left on the area cleared.

No grass will be planted on this contract. No payment will be made for the area where paving will be replaced.

Payment for trimming will only be done for one of the following: either hand trimming or machine trimming and only for a maximum of 3m wide.”

“SECTION 107: GENERIC LABOUR-INTENSIVE SPECIFICATION

Add the following:

Scope

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a) trenches having a depth of less than 1.5 metres

Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this Contract, the requirements of this specification shall prevail.

Hand excavate-able material is material:

- a) granular materials -
 - i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dens, or dense; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b) cohesive materials -
 - i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

- Note
- 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.
 - 2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 107. 1 : Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle
Loose	Small resistance to penetration by sharp end of a geological pick	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40mm; can be moulded by fingers with some pressure
Medium dense	Considerable resistance to penetration by sharp end of a geological pick	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers
Very dense	High resistance to repeated blows of a geological pick	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point

Clearing and grubbing

Grass and small bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilized for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

SECTION 202: TRENCHING

B16: Measurements for certificates

Add the following new clause:

“No item under **Section 202** will be measured until the pressure test of that section has been completed and passed and the block completed finished including cleaning and removal of rubble.”

Standard Specifications:

B202.03: Classification of Materials Excavated

Add the following:

“All excavations in soft and intermediate material will be measured and paid for under item 202.01 as soft material.” Hard excavation shall be defined as the excavation of all hard, compacted or rock materials that require blasting or the use of ripping and excavation equipment larger than defined for common excavation.

Add the following new clauses:

“B16: Cutting and Removal of premix

“The cutting and removal of premix shall be measured and paid for under item B202.16 in the Schedule of Quantities. Every trench will be cut two times on each side. The measurement for payment will however only be the length of the trench excavated.”

“B17: Hand excavation for trenches inside erven

Trenches are to be 500mm wide and 600mm deep and will be paid under item B202.17. This rate will not be extra over item 202.01”

Measurement and Payment:

B202.07: Extra over items 202.06 and 202.13 for using backfill obtained -

Add the following:

“Item	Description	Unit
B202.07.03	G5 provided by Contractor	m ³ ”

B202.11: Timbering and shoring left in excavation

Replace the payment clause with the following:

“Item	Description	Unit
B202.11	Timbering and shoring left in excavation	m

The unit of measurement shall be the metre length of tunnel wall or roof or trench wall against which timbering and shoring is required to be left in position permanently on the Engineer’s instructions. Each side of the trench or tunnel shall be measured.

The tendered rate shall include full compensation for leaving the timbering and shoring permanently in position, for ensuring that the timbering and shoring will not be disturbed during backfilling, and that

the backfilling is compacted fully around the shoring.”

Add the following new payment clauses:

“Item	Description	Unit
B202.16	Cutting and removal of premix	
	.01 Premix thickness up to 100mm	m ²
	.02 Premix thickness 101mm up to 200mm	m ²
	.03 Premix thickness 201mm up to 300mm	m ²
	.04 Premix thicker than 300mm	m ²

The unit of measure shall be the square meter of premix removed for the specified thickness, measured along the length and width of the final cut on the outside. The tendered rate shall include full compensation for the cutting of the premix twice on both sides of the trench and removing and discarding the removed premix.“

Add the following new payment clauses:

“Item	Description	Unit
B202.17	Hand excavations for trenches inside erven	
	Trenches 500mm wide and 600mm deep	m ³

The unit of measurement shall be the cubic meter of material excavated and measured in accordance with the dimensions specified.

The tendered rate shall include full compensation for the additional expenses of excavating by means of hand labour instead of traditional trenching equipment.

SECTION 402: CONSTRUCTION

Standard Specification

B10: Service Connections

Replace the clause with the following:

“Payment for the supply and installation of the communication pipes and accessories, installation of the water meter to be supplied by the CoT or connecting to the existing water meter, the connection of the service pipe to the meter and the connection of the internal network of the user to the meter shall be made in terms of B402.12. The Contractor must make provisions to shut down the water as well as to inform the community of the water interruption on the specific day. The rate must include full compensation for capping the old network as well as the connection of the old and new network.

When an existing water meter has a reading higher than 4 000 m³, the existing meter should be replaced with an equivalent new meter. The old meter number and the reading should be recorded on the relevant work order and the number and start meter reading of the new water meter added to the work order. Payment shall be made under item B402.12 if replaced with an equivalent meter or if replaced with a new plastic meter box.”

B16: Measurements for certificates

Add the following new clause:

“No item under **Section 402** will be measured until the pressure test of that section has been completed and passed and the block completed finished including cleaning and removal of rubble.”

Measurement and Payment:

Add the following new payment clauses:

“Item	Description	Unit
B402.02.09	Installation of hydrants complete, as per drawing 7515-W208	No

The unit of measurement shall be the number of hydrants installations done.

The tender rate shall include full compensation for hydrant head/stainless steel spindle as approved, all galvanised bends, wrapped with grease tape and then covered with PVC tape, anchor block, excavation, backfilling and all the fittings necessary to complete the installation. The hydrant T-piece, valve where required, flanges and 80mm diameter horizontal galvanised steel pipe are excluding from the rate and will be paid separately.

Measurement and Payment:

Add the following new payment clauses:

“Item	Description	Unit
B402.02.43	Custom made Steel special to be measured, manufactured and installed (epoxy powder coated - refer to Series 401.05):	per approved quotation

Payment for custom made steel specials: The Contractor shall present a Quotation that will include for the measurement, manufacturing, installing and testing of the steel special. The quotation will be approved by the Engineer and reimbursement shall be for the actual purchase cost of the steel special plus 10%. (Excluding handling, delivery or any other fees).

B17: Horizontal drilling

Add the following new clause:

“If a crossing cannot be completed by means of horizontal drilling, payment for the drilling will only be made if more than half of the crossing was completed. The rest of the crossing must then be completed by conventional methods. Payment for drilling will be made under item B402.13.”

The unit of measurement shall be the length of hole drilled and pipe installed. The diameter of each hole to be formed will be a size larger than the pipe diameter to be installed. This pay item shall be used if and when horizontal drilling is required underneath streets and paved areas by other Departments, Divisions and Sections within the CoT.

The tender rate for forming horizontal drilling holes and installing pipes shall include full compensation for locating existing services, drilling and for disposing of surplus material resulting from the formed hole, the installation of all material supplied by the Engineer to complete the work, transporting and delivering to the point of use, and the cleaning and tidying of the workplace after completion of the work. The tendered rate is for drilling in any soil condition, inclusive of rock.

Add the following new clause:

B19: Trenchless Technology: Materials and Equipment

B19.1: Materials - HDPE Pipes and fittings for Trenchless Technology (Pipes SABS ISO 4427 SABS 1315)

Add the following new clause:

“Polyethylene pipes shall have been manufactured with high quality materials that conform to the standards of ISO 9000 and the finish product shall conform to the technical specifications as shown below. The values below shall be applicable to both PE100 Black polyolefin grades.

TECHNICAL SPECIFICATIONS FOR PE 100 BLACK

PHYSICAL PROPERTIES	TEST METHOD	VALUE	UNIT
Density	ISO 1183	0.958	g/cm ³
Melt Flow Index (190°/5kg)	ISO 1133	9.0	g/10min
Melt Flow Index (190°/5kg)	ISO 1133	0.23	g/10min
Vicat Softening Point (190°/5kg)	ISO 306	67	°C
Crystalline Melting Range	ISO 3146-85	130-133	°C
Viscosity Number	ISO 1628-3	390	cm ³ /gm
MECHANICAL PROPERTIES	TEST METHOD	VALUE	UNIT
Shore D, Hardness	ISO 868	61	-
Tensile @ Yield	ISO 527	24	MPa
Ultimate Tensile	ISO 527	35	MPa
Ultimate Elongation	ISO 527	>600	%
Elastic Modulus	ISO 527	900	MPa
Flexural Strength (3.5% deflection)	ISO 178	19	MPa
Notched Impact (Charpy) can 23°	ISO 179	20	KJ/m ²
Notched Impact (Charpy) can -30°	ISO 179	6	KJ/m ²
Thermal Stability (OIT, 210°)	ISO 10837	>20	Min
Carbon Black Content	ASMD 1603	≥ 2	%

Pipes with nominal diameter of less than 100mm shall not be used in through lines but may be used in secondary short and terminal sections.

Any section of pipe with a gash, blister, abrasion, nick, scar or other deleterious fault greater in depth than ten percent of the wall thickness shall not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated in Clause B21.4. In addition, any section of pipe having other defects such as concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness or any other defect of manufacturing or handling as determined by the engineer and/or his representative shall be discarded and not used.

Couplings and Fittings (HS Welding as per SABS 0268)

Pipes may be joined by means of thermofusion by butt welding or by socket welding. Pipes may also

be joined by mechanical means, such as stub and end flanges, compression couplings or Victaulic/Tak couplings. Pipes shall under no circumstances be joined by means of solvents or adhesives.

Compression fittings for pipes up to 63mm nominal diameter shall be of type Alprene Series AZ or equal approved.

All other fittings shall conform to the requirements of the applicable ISO specifications (5 through 8)."

B19.2: Equipment

B19.2.1: General

Add the following new clause:

"Various types of specialized equipment are utilized in pipe bursting projects and the types are generally unique to each of the generic methods static pull, pneumatic and hydraulic. The primary difference between methods is the manner in which the force is generated and transferred to the host pipe during bursting operations."

B19.2.2: Static Pipe Bursting

Add the following new clause:

"In Static Pipe Bursting, the method to be used in this contract, a pulling force is applied to a tapered or blunt nosed bursting head through steel rods, chain or cable and new pipe is simply pulled behind the burst head through the old pipe. In this process the old pipe fails in tension created by the radial force applied to the pipe wall from the bursting head. As the bursting head advances, the old pipe is fragmented and compressed into the adjacent soil and the new pipeline is simultaneously installed in the void. The static pipe bursting winch equipment is modelled after high-powered hydraulic jacks, mounted horizontally, or a high-tension drum type of winch.

The pipe-bursting unit shall be designed and manufactured to force its way through existing lines by fragmenting the pipe and compressing the broken pieces into the surrounding soil as it progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipeline. The hydraulic system should be fitted with a direct reading load gauge to measure the pullback force or winching load.

The minimum equipment/requirements for the hydraulic static pull pipe burst system shall be:

Power source, hydraulic system, pulling unit (multi directional and fitted with gauges to monitor working force), rods (50mm x 100mm x 16kg) and bursting head complete with pin-joined tool and blades.

The Tenderer shall clearly indicate the technical specifications of the equipment he offers for the execution of the Works in the space provided in the Schedule of Quantities and Prices. The system shall be designed for optimum performance under the given conditions. Tenders that offer equipment of substandard design and performance curves shall not be evaluated."

B20: Preparatory Arrangements and Work

Add the following new clause:

"The Employer shall approve the location of entry/exit pits. Before any excavation is done for any

purpose, the contractor shall contact the various service providers for determining field location of existing services. All buried services adjacent/parallel to the pipe bursting operation shall be reviewed and where necessary be excavated to relieve transient loading during insertion operation. If any services are approximately within 500mm of the pipe to be burst, the contractor shall excavate a pit at the location to check clearance. The amount of clearance will be affected by the soil type, the amount of up-sizing and the location of the existing service in relation to the line being burst. If adequate separation does not exist between the existing water line and the subject service, the contractor shall employ substitute means to rehabilitate the existing water line.

Any concrete encasements shall be excavated and broken out prior to the bursting operation to allow the steady and free passage of the pipe bursting head. All in-line valves and fittings shall be removed prior to the bursting operation.

Any damage to adjacent properties that are not part of this work shall be repaired and restored to its original condition at the contractor's expense."

B21: Installation

B21.1: General

Add the following new clause:

The contractor shall take all precautions required by statutory regulations or dictated by actual circumstances to ensure the safety of the public and workmen and to avoid interrupting or demanding public or private utilities that may be encountered during the course of the work. When utilizing a winch, the winch, cable and cable drum must be provided enclosed so that it may be operated safely without injury to persons or property.

Add the following new clause:

B21.2: Excavations- Trenches/Working Space/Entry and Exit Pits

Trenches should be wide enough to provide safe working conditions and adequate working space for workmen to place and joint the pipe properly. The contractor shall provide a system of guide pulleys and bracing at the exit pit to minimise cable contact with the existing line between launch and exit pits. The winch cable, burst head and polyethylene pipe cannot come into contact with the supports of the trench shoring in the insertion pit.

Add the following new clause:

B21.3: Laying of Pipes

The new polyethylene pipe shall be inserted immediately behind the bursting head in accordance with the manufacturer's recommended procedures. The bursting equipment shall be specifically designed and manufactured for the type of insertion process being used.

The maximum pulling force shall not exceed the estimated value given by the formula $F=SA$, where F = max pulling force in N; S = max permissible stress of the pipe material in MPa; A = cross-sectional area of the pipe wall in mm^2 .

B21.4: Jointing

Add the following new clause:

If new pipe and fittings become damaged before or during installation it shall be repaired as recommended by the manufacturer or replaced as required by the engineer at the contractor's expense, before proceeding further.

The polyethylene pipe shall be assembled and joined at the site using the butt-fusion method to provide a leak proof joint. Threaded or solvent-cement joints and connections are not permitted. All equipment and procedures used shall be in strict compliance with the manufacturer's recommendations. Personnel certified as fusion technicians by a manufacturer of polyethylene pipe and/or fusing equipment shall perform fusing.

The butt-fused joint shall be in true alignment and shall have uniform rollback beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal and pressure. The fused joint shall be watertight and shall have tensile strength equal to that of the pipe. All joints shall be subject to acceptance by the Engineer and/or his representative prior to insertion. All defective joints shall be cut out and replaced at no cost to the Employer.

Terminal sections of pipe that are joined shall be connected with connectors with tensile strength equivalent to that of the pipe being joined.

Service connections with the polyethylene pipe shall be accomplished by the sidewall fusion method in accordance with the manufacturer's printed instructions.

Where polyethylene pipes are connected to ductile iron fittings and valves, HDPE flange adaptors shall be fused to the end of the pipe and the connection made with bolted flange components.

The Engineer shall inspect all joints before insertion. The pipe shall be joined on site in appropriate working lengths near the launching pit.

All service connections and valves on the existing water main will be taken out of service. This will include water meters, hydrant valves, isolation valves etc. all of which shall be replaced with new equipment and fittings.

After the new polyethylene pipe has been installed, disinfected and tested, each existing service shall be connected to the new pipe in accordance with manufacturer's recommendations for sidewall fusion.

B21.5: Testing

Add the following new clause:

The polyethylene pipe shall be pressure tested in accordance with the manufacturer's specifications and procedures after the line and all fittings and valves have been installed. Connections may be left exposed for visual leak inspection.

B21.6: Temporary water supply system

Add the following new clause:

The contractor shall be required to provide, install and maintain a temporary water supply system. Such temporary supply shall be provided where no supply interruptions will be allowed by the Employer or the works duration will exceed the maximum allowable supply interruption.

The temporary supply shall typically –

- be light weight, easy to handle and easy to assemble;
- be between isolation valves, preferably existing valves;
- not leak;
- be properly anchored;
- positioned not to interfere with pedestrians and vehicular traffic;
- be protected from damage, where required; and
- be periodically checked for damage, minimum every two hours.

Once the works have been successfully completed, the Contractor shall dismantle the temporary system. The system can be re-used if it is still in a good working order.

B402.12 The provision and installation of connections to users complete (excluding water meters and saddles):

Add the following new payment clause:

“Item	Description	Unit
B402.12.01	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail drawing 7515-W206 and 7515-W207 :	
	.01 Short single erf connection	
	.01 15 mm dia watermeter, 40 mm pipe size	No
	.02 20 mm dia watermeter, 40 mm pipe size	No
	.03 25 mm dia watermeter, 40 mm pipe size	No
	.04 40 mm dia watermeter, 50 mm pipe size	No
	.05 50 mm dia watermeter, 80 mm pipe size	No
	.06 80 mm dia watermeter, 100 mm pipe size	No
	.07 100 mm dia watermeter, 150 mm pipe size	No

A short single connection is defined as a water meter connection with five (5) metres or less piping between the main supply and the meter installation, where no crossing of a public road is required.

The unit of measurement shall be the number of meter installations done. The size of the water connection refers to the size of the water meter used, which shall be connected to the next largest nominal pipe size. (For example a 80mm diameter water meter will be fitted to a 100mm diameter pipe.)

The tender rate shall include full compensation for travelling, locating existing services, excavating, supplying and laying of pipes and all necessary fittings including the valves to complete the installation as per drawing, installation of new water meter or connecting to existing water meter, the extension of the communication pipe if necessary as indicated on the drawings, the meter installation with 1,5m HDPE downstream pipe where required and all other plumbing material necessary to complete the work as indicated on the drawings, flushing of system, connecting the water supply, backfilling and compaction to 90% modified AASHTO density and the cleaning and tidying of the work place after completion of the installation.

The CoT will supply all water meters. Saddles will be paid separately.”

“Item	Description	Unit
B402.12.02	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail drawing 7515-W206 and 7515-W207 :	
	.02 Short double erf connections	
	.01 15 mm dia watermeter, 40 mm pipe size	No
	.02 20 mm dia watermeter, 40 mm pipe size	No
	.03 25 mm dia watermeter, 40 mm pipe size	No
	.04 40 mm dia watermeter, 50 mm pipe size	No
	.05 50 mm dia watermeter, 80 mm pipe size	No
	.06 80 mm dia watermeter, 100 mm pipe size	No
	.07 100 mm dia watermeter, 150 mm pipe size	No

A short double connection is defined as the water meter connection where less than five (5) metres piping is required between the main supply and the installation of the two meter installations without the crossing of a public road.

The unit of measurement shall be the number of double meter installations done. The size of the water connection refers to the size of the water meter used, which shall be connected to the next largest nominal pipe size. (For example a 80mm diameter water meter will be fitted to a 100mm diameter pipe.)

The tender rate shall include full compensation for travelling, locating existing services, excavating, supplying and laying of pipes and all necessary fittings including the valves to complete the installation as per drawing, installation of new water meter or connecting to existing water meter, the extension of the communication pipe if necessary as indicated on the drawings, the meter installation with 1,5m HDPE downstream pipe and all other plumbing material necessary to complete the work as indicated on the drawings, flushing of system, connecting the water supply, backfilling and compaction to 90% modified AASHTO density and the cleaning and tidying of the work place after completion of the installation.

The CoT will supply all water meters. Saddles will be paid separately.”

“Item	Description	Unit
B402.12.03	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail 7515-W206 and 7515-W207 :	
	.03 Long single erf connection	
	.01 15 mm dia watermeter, 40 mm pipe size	No
	.02 20 mm dia watermeter, 40 mm pipe size	No
	.03 25 mm dia watermeter, 40 mm pipe size	No
	.04 40 mm dia watermeter, 50 mm pipe size	No
	.05 50 mm dia watermeter, 80 mm pipe size	No
	.06 80 mm dia watermeter, 100 mm pipe size	No

.07	100 mm dia watermeter, 150 mm pipe size	No
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A long single connection is defined as a water meter connection with piping more than five (5) metres up to seventeen (17) metres between the main supply and the meter installation and where the crossing of a public road is required.

The unit of measurement shall be the number of meter installations done. The size of the water connection refers to the size of the water meter used, which shall be connected to the next largest nominal pipe size. (the minimum pipe size is 40mm diameter)

The tender rate shall include full compensation for travelling, locating existing services, excavating, horizontal drilling or trenching of tarred road surfaces and resurfacing the tarred road, supplying G5 material, additional compaction, supplying and laying of pipes and all necessary fittings including the valves to complete the installation as per drawing, installation of new water meter or connecting to existing water meter, the extension of the communication pipe if necessary as indicated on the drawings, the meter installation with 1,5m HDPE downstream pipe and all other plumbing material necessary to complete the work as indicated on the drawings, flushing of system, connecting the water supply, backfilling and compaction to 90% modified AASHTO density and the cleaning and tidying of the work place after completion of the installation.

The CoT will supply all water meters. Saddles will be paid separately.”

“Item	Description	Unit
B402.12.04	The provision and installation of connections to users complete (excluding supply of water meters but including installation of water meters) as per detail drawing 7515-W206 and 7515-W207 :	
	.04 Long double erf connections	
	.01 15 mm dia watermeter, 40 mm pipe size	No
	.02 20 mm dia watermeter, 40 mm pipe size	No
	.03 25 mm dia watermeter, 40 mm pipe size	No
	.04 40 mm dia watermeter, 50 mm pipe size	No
	.05 50 mm dia watermeter, 80 mm pipe size	No
	.06 80 mm dia watermeter, 100 mm pipe size	No
	.07 100 mm dia watermeter, 150 mm pipe size	No

A long double connection is defined as a water meter connection with piping more than five (5) metres up to seventeen (17) metres between the main supply and the two-meter installations without the crossing of a public road.

The unit of measurement shall be the number of double meters installations done. The size of the water connection refers to the size of the water meter used, which shall be connected to the next largest nominal pipe size. (the minimum pipe size is 40mm diameter)

The tender rate shall include full compensation for travelling, locating existing services, excavating, horizontal drilling or trenching of tarred road surfaces and resurfacing the tarred road, supplying G5 material, additional compaction, supplying and laying of pipes and all necessary fittings including the valves to complete the installation as per drawing, installation of new water meter or connecting to existing water meter, the extension of the communication pipe if necessary as indicated on the drawings, the meter installation with 1,5m HDPE downstream pipe and all other plumbing material necessary to complete the work as indicated on the drawings, flushing of system, connecting the

water supply, backfilling and compaction to 90% modified AASHTO density and the cleaning and tidying of the work place after completion of the installation. The CoT will supply all water meters. Saddles will be paid separately.”

B402.13: Horizontal drilling

Add the following new payment clause:

“Item	Description	Unit
B402.13	Horizontal drilling	
	.01 10mm to 50mm dia pipe	m
	.02 51mm to 80mm dia pipe	m
	.03 81mm to 100mm dia pipe	m
	.04 101mm to 150mm dia pipe	m
	.05 151mm to 200mm dia pipe	m
	.06 201mm to 250mm dia pipe	m
	.07 251mm to 350mm dia pipe	m
	.08 351mm to 400mm dia pipe	m
	.09 401mm to 450mm dia pipe	m

The unit of measurement shall be the meter drilled for the different sizes indicated.

The tendered rate shall include full compensation for establishing the drilling team on site as and when required, excavating and backfilling of launch and exist pits for the drilling machine, providing all necessary equipment and tools required for drilling. The unit of measurement shall be the length of hole drilled and pipe installed. The diameter of each hole to be formed and pipe installed. This pay item shall be used if and when horizontal drilling is required underneath streets and paved areas by any Departments, Divisions and Sections within the CoT

The tender rate for forming horizontal drilling holes and installing pipes shall include full compensation for locating existing services, drilling and for disposing of surplus material resulting from the formed hole, the installation of all material supplied by the Engineer to complete the work, transporting and delivering to the point of use, and the cleaning and tidying of the workplace after completion of the work.”

B402.14: Connections to existing PVC/AC/HDPE water reticulation pipes irrespective of depth

Add the following new payment clause:

“Item	Description	Unit
B402.14	Connection to existing PVC water reticulation pipes Irrespective of depth	No

The unit of measure shall be the number of connections made to existing water networks.

The rate shall include full compensation for supplying all tools, labour and equipment necessary to make the connection.”

B402.15: Launching and Exit Pits

Add the following new payment clause:

“Item	Description	Unit
B402.15	Launching and Exit Pits	No

The unit of measure shall be the number of pits excavated not exceeding 1 500mm deep.

The rate shall include for shoring if and where required, protective and safety measures, preparation of the pit bottom, breaking of the existing pipe, backfilling, compaction and levelling on completion of the work.”

B402.16: Excavate and disconnect existing services

Add the following new payment clause:

“Item	Description	Unit
B402.16	Excavate and disconnect existing services	No

The unit of measure shall be the number of pits excavated not exceeding 1 500mm deep.

The rate shall include for shoring if and where required, protective and safety measures, preparation of the pit bottom, disconnecting and/or reconnecting the water meter/valve/hydrant/saddle etc., backfilling, compaction and levelling on completion of the work. Purchase, supply and installation of new items including fittings, will be measured separately as an extra over.”

B402.17: Pipe Bursting of AC pipes, irrespective of diameter, and Installation of the new HDPE Pipe

Add the following new payment clause:

“Item	Description	Unit
B402.17	Pipe Bursting of AC pipes, irrespective of diameter and installation of the new HDPE Pipe	
	.01 110mm pipe	m
	.02 160mm pipe	m
	.03 200mm pipe	m
	.04 250mm pipe	m
	.05 300mm pipe	m
	.06 315mm pipe	m
	.07 355mm pipe	m
	.08 400mm pipe	m
	.09 500mm pipe	m

The unit of measure shall be the linear meter of new pipe installed.

The rate tendered shall include the purchase and supply of the new pipe, placing of all materials, labour, tools, equipment, cleaning and preparation of the existing pipe to receive the replacement pipe, butt welding (jointing of the main line), connecting to existing water lines, annulus sealing material, temporary fittings and ancillary work to accomplish successful installation.”

B402.18: Pipe Bursting steel pipes, irrespective of diameter and Installation of the new HDPE Pipe

Add the following new payment clause:

“Item	Description	Unit
B402.18	Pipe Bursting of steel pipes, irrespective of diameter and installation of the new HDPE Pipe	
	.01 110mm pipe	m
	.02 160mm pipe	m
	.03 200mm pipe	m
	.04 250mm pipe	m
	.05 300mm pipe	m
	.06 315mm pipe	m
	.07 355mm pipe	m
	.08 400mm pipe	m
	.09 500mm pipe	m

The unit of measure shall be the linear meter of new pipe installed.

The rate tendered shall include the purchase and supply of the new pipe, placing of all materials, labour, tools, equipment, cleaning and preparation of the existing pipe to receive the replacement pipe, butt welding (jointing of the main line), connecting to existing water lines, annulus sealing material, temporary fittings and ancillary work to accomplish successful installation.”

B402.19: Pipe Bursting PVC pipes, irrespective of diameter and Installation of the new HDPE Pipe

Add the following new payment clause:

“Item	Description	Unit
B402.19	Pipe Bursting of PVC pipes, irrespective of diameter and installation of the new HDPE Pipe	
	.01 110mm pipe	m
	.02 160mm pipe	m
	.03 200mm pipe	m
	.04 250mm pipe	m
	.05 300mm pipe	m
	.06 315mm pipe	m
	.07 355mm pipe	m
	.08 400mm pipe	m
	.09 500mm pipe	m

The unit of measure shall be the linear meter of new pipe installed.

The rate tendered shall include the purchase and supply of the new pipe, placing of all materials, labour, tools, equipment, cleaning and preparation of the existing pipe to receive the replacement pipe, butt welding (jointing of the main line), connecting to existing water lines, annulus sealing material, temporary fittings and ancillary work to accomplish successful installation.”

B402.20: Supply and installation of stub and Flanged Adapters by butt welding to the following HDPE pipes

Add the following new payment clause:

“Item	Description	Unit
B402.20	Supply and installation of stub and Flanged Adapters by butt weld to the following HDPE pipes (SABS 1123 Table 16)	
	.01 110mm pipe	no
	.02 160mm pipe	no
	.03 200mm pipe	no
	.04 250mm pipe	no
	.05 300mm pipe	no
	.06 315mm pipe	no
	.07 355mm pipe	no
	.08 400mm pipe	no
	.09 500mm pipe	no

The unit of measure shall be the number of flanged adapters supplied and installed by butt welding to the HDPE pipe.

The rate tendered shall include the purchase and supply of the new flanged adapters, placing of all materials, labour, tools, equipment, cleaning and preparation of the existing pipe to receive the flanged adapter, butt welding and ancillary work to accomplish successful installation.”

B402.21: Supply and installation of temporary HDPE pipes

Add the following new payment clause:

“Item	Description	Unit
B402.21	Supply and installation of temporary HDPE pipes	
	.01 63mm pipe	m
	.02 110mm pipe	m
	.03 160mm pipe	m

The unit of measure shall be the meter of HDPE pipe supplied.

The rate tendered shall include the purchase and supply of the HDPE (PE100 PN12.5) pipes, placing of all materials (saddles, bends, communication pipes etc), labour, tools, equipment and connecting of the temporarily pipe to the existing reticulation system and the end user, butt welding and ancillary work to accomplish successful installation and dismantling of the system when the portion of pipe bursting is successfully completed.”

B402.22: Remove existing t-pieces, couplings, saddles and bends on existing pipes before pipe bursting

Add the following new payment clause:

“Item	Description	Unit
B402.22	Remove existing t-pieces, couplings, saddles and bends on existing pipes before pipe bursting	each

The unit of measure shall be per existing fitting removed.

The rate tendered shall include the location and excavation of all materials (saddles, bends, couplings, t-pieces, bends etc), labour, tools, necessary to dismantle or remove these fittings to ensure that pipe bursting is successfully completed.”

B402.23: Supply and installation of PRV and all fittings in PRV chamber complete as per drawing:

Add the following new payment clause:

“Item	Description	Unit
B402.23	01 Supply and installation fittings, pipe work and footings for a pressure reducing valve chamber at Soshanguve GG according to drawing W-0131-SOSH-GG-10-0005-R00-C (including all material and labour)	each
	.02 Supply and installation fittings, pipe work and footings for a pressure reducing valve chamber at Atteridgeville according to drawing W-0030-ATT-2013-0001-R00-C and W-0030-ATT-2013-0003-R00-C (incl all material and labour)	each

The unit of measure shall be per chamber fittings installed complete as shown on the drawings as specified.

The rate tendered shall include full compensation for the supply and installation of all fittings and materials (PRV’s, strainer, pipework, reducers, valves, water meters, t-pieces, bends etc.), labour, tools, necessary to install these fittings to ensure that pipe work is successfully completed.”

**SERIES 5 : DRAINAGE AND EROSION PROTECTION
 SECTION 503 : KERBING AND CHANNELLING**

Standard Specification

B503.01 Concrete kerbing

Replace the following new payment clauses:

“Item	Description	Unit
B503.01	<u>.01 Supply and installation of the following Kerbings: (Drawing STD007 1 of 2) KERBING</u>	
	.01 Supply and installation of the following Kerbings:	
	.01 Semi-vertical kerb with channel	m
	.02 Semi-vertical kerb on curved sections	m
	.03 Semi-vertical kerb along straight sections	m

“The unit of measurement must be the metre of concrete kerbing complete as constructed, measured along the front face of the kerb in accordance with the Specifications and Project Specifications. The

tendered rates for each metre of concrete kerbing must include full compensation for the supply, transport, handling, installing the complete item, including the necessary excavation, bedding, additional concrete or sub-base material as specified, backfilling, and for the installation of the concrete backing.”

“B503.02 Construction of Slope kerbings in position”

Add the following new payment clauses:

“Item	Description	Unit
B503.02	Construction of Slope kerbings in position	
	.02 Construction of Slope Kerbings in position	
	.01 300 sloping kerb	m
	.02 400 sloping kerb	m
	.03 500 sloping kerb	m

“The tendered rate for each metre of concrete kerbing and kerbing-channelling combination shall include full compensation for constructing the complete item, including the necessary excavation, bedding, additional concrete or sub-base material as specified in sub-clause 04.03, backfilling, formwork, concrete, curing and finishing, for recessing the specified letters into the concrete where necessary to indicate the positions of service ducts or house connections for water and for the installation of the concrete backing.”

SERIES 6: ROADS AND PARKING AREA
SECTION 609 : SEGMENTED PAVING

B609.01 CONSTRUCTION OF SEGMENTAL BLOCK PAVING

Add the following to payment clauses:

“Item	Description	Unit
B609.01	<u>CONSTRUCTION OF SEGMENTAL BLOCK PAVING (Refer to drawing STD008 1 of 1)</u>	
	.02 Repairs of segmented paving	m ²

“The unit measurement must be the square metre of completed paving in accordance with the Specifications and Project Specifications.

The tendered rates must include full compensation for breaking up the damaged pavement section, repairing the sub-base if necessary, laying of the blocks, the removal of the top layer of soil and removing all spoil material, the levelling of underlying layers, the removal and replacement of damaged blocks, cutting the blocks where required, the provision and placing of a layer of bedding sand, jointing sand, the infilling of small areas with cut blocks or concrete and the laying of a trial section, removal of any spoil material, all as specified. The existing blocks must be used, if any additional segmental block paving is required it will be paid separately. ”

“B609.01.03 SUPPLY OF SEGMENTAL BLOCK PAVING”

Add the following to payment clauses:

“Item	Description	Unit
B609.1.03	.03 Supply of segmental block paving (Reimbursement must be for the actual purchase cost of the paving blocks plus 10%.)	Per 1000

“The unit measurement must be the square metre of paving supplied.

Payment for segmental block paving: The Contractor must present a Tax Invoice from an accredited brick supplier for the purchase of the approved segmental block paving. Reimbursement must be for the actual purchase cost plus 10%. (Excluding handling, delivery or any other fees)”

SECTION 610 : CONCRETE PAVEMENTS

610. Concrete pavement

Add the following to payment clauses:

“Item	Description	Unit
B610.01	Concrete pavement . 01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²

“The unit measurement must be the square metre of pavement placed and finished in accordance with the Specifications and Project Specifications.

The minimum thickness 100mm will be allowed and where the existing concrete is thicker the new concrete must be the same thickness as existing or a maximum of 125mm. The tendered rates must include full compensation for cutting out and breaking up the cracked pavement section, removing the concrete, repairing the sub-base if necessary, procuring and furnishing all materials, the storage of materials, provision of all plant, determining mix proportions, for mixing, transporting, placing and finishing of the concrete, in such cases, including formwork, joints, repairs to defective surfaces, grinding and retexturing if required, repairs joints and cracks, protecting the pavement against damage, construction joints and for process control.”

Add the following new payment clauses:

“Item	Description	Unit
B610.08	Imprint Concrete pavement . 01 Repair of all concrete pavements for concrete from 100mm up to125 mm thick.	m ²

“The unit measurement must be the square metre of pavement placed and finished in accordance with the Specifications and Project Specifications.

The minimum thickness 100mm will be allowed and where the existing concrete is thicker the new

concrete must be the same thickness as existing or a maximum of 125mm. The tendered rates must include full compensation for cutting out and breaking up the cracked pavement section, removing the concrete, repairing the sub-base if necessary, procuring and furnishing all materials, the storage of materials, provision of all plant, determining mix proportions, for mixing, transporting, placing and finishing of the concrete, in such cases, including formwork, joints, repairs to defective surfaces, grinding and retexturing if required, repairs joints and cracks, protecting the pavement against damage, construction joints and for process control.

The tendered rate must include full compensation for texturing, including compensation for providing the required equipment and for applying the texturing, painting or oxide the portion replaced.”

Contract: WS 19 2022/23 Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required
Part C3: Scope of work
Section: C3.7: Health and Safety Specification

CITY OF TSHWANE

WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2022/23

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENTION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.7 HEALTH AND SAFETY SPECIFICATION

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 - 3.2.7 Methodology for the Preparation of Risk Assessments**
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 - 3.2.11 Risk Evaluation**
 - 3.2.12 Risk Treatment**
 - 3.2.13 Reporting and Recording**
 - 3.2.14 Monitoring and Review**
 - 3.2.15 Communication and Consultation**
 - 3.3 Resources**
 - 3.4 Employees**
 - 3.5 Subcontractors**
 - 3.6 Competencies**

- 3.7 Physical and Psychological Fitness**
- 3.8 Plant, Vehicles and Equipment**
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 - 3.8.2 Material hoists**
 - 3.8.3 Bulk Mixing Plant**
 - 3.8.4 Explosive actuated fastening Device**
 - 3.8.5 Cranes**
 - 3.8.6 Construction vehicles and mobile plant**
- 3.9 Electrical Installation and Machinery on construction sites**
- 3.10 Ladders**
- 3.11 Materials**
- 3.12 Fall Protection Equipment**
- 3.13 Scaffolding**
- 3.14 Use and temporary storage of flammable liquids on construction sites**
- 3.15 Stacking and storage**
- 3.16 Personnel Safety Equipment and Facilities**
- 3.17 First Aid, Emergency Equipment and Procedures**
- 3.18 Operational Control of the Construction Site**
 - 3.18.1 Construction employees' facilities**
 - 3.18.2 Environmental Conditions**
 - 3.18.3 Housekeeping on construction sites**
 - 3.18.4 Fire precaution on construction sites**
 - 3.18.5 Water Environments**
 - 3.18.6 Hazardous Chemical Substances**
 - 3.18.7 Demolition work**
 - 3.18.8 Earthworks**
 - 3.18.8.1 Excavation work**
 - 3.18.8.2 Formwork and support work**
 - 3.18.9 Housekeeping on construction sites**
- 3.19 Implementation of Contractors' Health and Safety Plan**
- 3.20 Administrative Systems**
- 3.21 Reporting Systems**
- 3.22 Training**
 - 3.22.1 General induction Training**
 - 3.22.2 Site Specific Induction Training**
 - 3.22.3 Other Training**
- 3.23 Awareness and Promotion**
- 3.24 Notices and Signs**
- 3.25 Safety Meetings**

3.26 Occupational Health and Safety Committees

3.27 Inspections and Monitoring

3.28 Auditing

Annexure1-OHS Legal Appointments Templates

Annexure 2-Identified Health and Safety Hazards

Annexure3-Acknowledgement of City of Tshwane OHS Specifications

1.0 Overview on SHE specification framework and contractor management process (Section 1)

1.1 Definition of Terms

- I. Client-Means any person for whom construction work is performed and or undertaken (City of Tshwane for the purposes of this project)
- II. Principal Contractor-Means an employer, as defined by Section 1 of the OHSACT who performs construction work and is appointed by the client to be in overall control and management of the construction site and works
- III. Agent-Means a competent person who acts as a representative for a client in this case MIH Projects.
- IV. Occupational Health and Safety Specification- Means a documented specification of all Health and Safety requirements pertaining to the associated works on a construction site so as to ensure the health and safety of persons working ,visiting, passing, staying and working close to the construction site and or other applicable areas such as the site camp
- V. Risk-means the probability that injury or damage will occur
- VI. Hazard-means a source of or exposure to danger

1.2 Introduction

In terms of the Construction Regulation 5 (1) of the OHS ACT, the client is required to compile an Occupational Health and Safety Specification for an intended project. This specification has an objective to ensure that the principal contractor entering into a contract with the client achieves and maintain an acceptable level of Occupational Health and Safety performance and compliance. This document forms an integral part of the contract between the client and the principal contractor.

The Principal Contractor and its Contractors shall furthermore implement any reasonable practicable means to ensure compliance to this Occupational Health, Safety and Environmental (SHE). Specification and any other applicable legislation on their organization and/or activities performed by or for them

Compliance with this document does not absolve the principal contractor from complying with any other minimum legal requirement and the principal contractor remains responsible for the health and safety of his employees, those of his mandatories as well as any person coming on site or on adjacent properties as far as it relates to the construction activities.

1.3 City of Tshwane's commitment to Occupational Health, Safety & Environmental (SHE) Management

City of Tshwane is committed to responsible occupational health, safety and environmental management. This commitment is essential to protect the environment, employees, Mandatories, visitors and provide a work environment conducive to health and safety. Principal Contractors and their Contractors shall demonstrate their commitment and concern by:

- Ensuring that decisions and practices affecting occupational health, safety and environmental performance are consistent with the issued SHE specification;
- Ensuring adequate resources are made available for the effective implementation of occupational health, safety and environmental control and mitigation measures;
- Participating in hazard identification and risk assessments and design safety reviews;
- Communicating occupational health, safety and environmental management processes, strategies and control measures with all levels of employees, contractor and/or visitors;
- Ensuring visible leadership at all sites;
- Promoting and enforcing the use of correct types of Personal Protective Equipment (PPE);
- Reporting and investigation of incidents and accidents and ensuring actions are identified and implemented to prevent similar types of incidents reoccurring;
- Participating in Client audits and meetings and ensuring required actions are implemented within reasonable time frames on the site/project;
- Recognizing and commending safe work practices and coaching employees who require guidance;
- Applying and enforcing consequence management from deviations and transgressions of/from compliance to this SHE Specification noted and/or observed, where applicable;
- Carrying out safety observations, implement corrective and preventative actions and giving immediate feedback;
- Encouraging employee participation in the formulation of work instructions and safety rules.

1.4 Scope

To develop a project specific Occupational Health and Safety Specification that addresses the reasonable and foreseeable risks, exposures and aspects of Occupational Health and Safety as affected by the abovementioned contract work.

The specification will provide the requirements that the principal contractor and other contractors will have to comply with in order to reduce the risk associated with the abovementioned contract work and that may lead to incidents causing injury and/or ill health to a level as low as reasonably practicable and possible.

1.5 Omissions from SHE Specification

Where any omission from the SHE Specification is identified, applicable legal requirements will constitute the minimum standard for compliance to the relevant omission. The responsibility will be on the Principal Contractor to provide assurance to City of Tshwane on compliance to the applicable legal requirements related to the activity / task / process.

1.6 Change or Review of Specifications

Whenever City of Tshwane identifies the need to change or review the SHE Specification, approved changes and revisions will be communicated to the Principal Contractor. A cost analysis on the implementation of the proposed changes / revisions will be calculated through a collaborative processes between City of Tshwane and the Principal Contractor – where the approved changes and/or revisions has no cost implication for the Principal Contractor the Principal Contractor will be required to accept the approved changes / revisions and ensure implementation within the SHE Plan .

2.0 Preparation and Submission of SHEQ file

The Principal Contractor will prepare a SHE File containing the processes / procedures and templates to be applied during the project period for the scope of work. The Principal Contractor will be evaluated during the contract period against the submitted SHE File.

At a minimum the SHE File will contain the following documentation:

1. Notification of construction work to the relevant Department of Labour (stamped on each page / no faxed copies).
2. Scope of work to be performed;
3. Public Liability.
4. Personnel list (Principal Contractor employees).
5. OH&S / SHE Policy and other Policies.
6. Updated copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations.
7. Updated copy of the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993) and its Regulations.
8. Proof of valid registration and good standing with the Compensation Commissioner or another licensed Insurer.
9. SHE Plan agreed with City of Tshwane.
10. Agreement with Mandatory in terms of Section 37(1) &2 of the OHS Act.
11. Approved risk assessments, review and monitoring plans and safe work procedures (method statements).
12. A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work being done by each contractor.
13. Designs and/or drawings.

14. All written designations and appointments for project scope of work (CV and competency copies).
15. Management structure (inclusive of OH&S responsibility & meeting structure).
16. Induction training and site SHE rules.
17. Occupational health and safety training matrix / plan.
18. Arrangements with contractors and/or mandatories.
19. The following registers (as applicable to contract scope of work):
 - Accident and/or incident notifications, investigation & control register.
 - Occupational health and safety representatives' inspection register.
 - Construction vehicles and mobile plan inspections.
 - Daily inspections templates of vehicles, plant and other equipment by the operator, driver and/or user.
 - Daily inspections templates of excavations by competent person.
 - Template for entry into confined space.
 - Toolbox talks pro-forma.
 - Designer's inspections and structures record template.
 - Inspection and maintenance template of explosive powered tools;
 - Inspection template of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances).
 - Fall protection inspections template.
 - First-aid box content template.
 - Record of first-aid treatment template.
 - Fire equipment inspection and maintenance template.
 - Record of hazardous chemical substances template kept and used on site.
 - Ladder inspection template.
 - Machine safety inspections template (including machine guards, lockouts etcetera).
 - Inspection templates for lifting machines and –tackle (including daily inspections by drivers/operators).
 - Inspection templates of scaffolding.
 - Inspection templates of stacking and storage.
 - Inspections templates of structures.
 - Inspections templates of vessels under pressure.
 - Inspection templates of welding equipment.
 - Templates of issuing of Personal Protective Equipment.
 - Monthly reporting and recording of statistics templates.
 - Keeping of any other record in terms of applicable legislation falling within the scope of SHE Legislation applicable to the project and the Principal Contractor / Contractor's activities and organization.
 - Emergency preparedness and response programmes.

2.1 Evaluation of SHEQ file

City of Tshwane will conduct an initial inspection and evaluation of the Principal Contractor's SHEQ File for approval purposes to commence work. The Principal Contractor is required to submit the SHE File within 5 days after receiving the induction training from City of Tshwane. City of Tshwane will allocate 3 days to evaluate the file and to give feedback on the evaluation report of the file to the contractor. If the file has not been approved, the contractor shall ensure that the outstanding documents are submitted in the file for re-evaluation within 3 working days. Failure to do so will result in the contractor being re-inducted, and the process of evaluation to be restarted. The approval letter from City of Tshwane must be kept in the SHE File and any letter issued concerning the evaluation of the file.

Principal Contractors are required to achieve at least 80% (Eighty Per cent) compliance on the entire SHE File Documentation to obtain approval by City of Tshwane

2.2 Principal Contractor engagement phase

The Principal Contractor can commence with the contract work after approval of the SHE File. The following processes will be applied on the Principal Contractors on a monthly basis for the duration of the contractual period:

- Monthly Compliance Assessments;
- Behavioural Based Safety Assessments;
- Site Inspections;
- Progress meetings;
- Contractor forum meetings held at City of Tshwane
- Incident Investigations (where applicable).

An initial site assessment and site establishment audit will be conducted by MIH Projects after approval of the SHE File / Plan.

2.3 Project close-out and submission of consolidated Health & Safety File.

On completion of each project the Principal Contractor will submit all documentation required for the Consolidated SHE File to City of Tshwane in an auditable format within 5 days of project completion. It is the responsibility of the Principal Contractor to deliver the Consolidated SHE File to the relevant City of Tshwane offices.

At a minimum, the consolidated SHE File will contain the following records:

1. Approval letter by City of Tshwane on contents of Health and Safety File / SHE Plan.
2. A construction work permit issued by the Department of Labour as contemplated in Construction Regulation 3 of the Construction Regulations 2014.
3. Scope of work performed.

4. OH&S / SHE Policy and other Policies.
5. Copy of the Occupational Health and Safety Act (Act no. 85 of 1993) and its Regulations.
6. Copy of the Compensation for Occupational Injuries and Diseases Act (Act no. 130 of 1993) and its Regulations.
7. Proof of registration and good standing with the Compensation Commissioner or another licensed Insurer.
8. SHE plan agreed with City of Tshwane including the underpinning risk assessment(s) and method statements.
9. A list of contractors (sub-contractors) including copies of the agreements between the parties and the type of work done by each contractor.
10. Notifications of new projects /extension of scope received.
11. Designs and/or drawings.
12. Occupational health and safety committee meeting agenda and minutes.
13. Copies of written designations and appointments (CV and competency copies).
14. Management structure (inclusive of OH&S responsibility & meeting structure).
15. Induction training conducted and site SHE rules.
16. Occupational health and safety training provided.
17. Arrangements with contractors and/or mandatories.
18. Description of security measures.
19. Occupational health and safety rules and procedures applied during contract period.
20. The following registers:
 - Accident and/or incident register.
 - Occupational health and safety representatives' inspections.
 - Construction vehicles and mobile plan inspections.
 - Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user.
 - Daily inspections of excavations by competent person.
 - Inspections for entry into confined space.
 - Toolbox talks conducted.
 - Designer's inspections and structures records.
 - Inspections of explosive powered tools.
 - Inspections of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances).
 - Fall protection inspections.
 - First-aid box content inspections.
 - Record of first-aid treatment.
 - Fire equipment inspection and maintenance records.
 - Record of hazardous chemical substances kept and used on site.

- Ladder inspections.
- Machine safety inspections (including machine guards, lockouts etcetera).
- Inspections for lifting machines and –tackle (including daily inspections by drivers/operators).
- Inspections of scaffolding.
- Inspections of stacking and storage.
- Inspections of structures.
- Inspections of vessels under pressure.
- Inspection of welding equipment.
- Issue registers for Personal Protective Equipment.
- Monthly reporting and recording of statistics reports.
- Keeping of any other record in terms of applicable legislation falling within the scope of SHE Legislation applicable to the project and the Principal Contractor / Contractor’s activities and organization.
- All other applicable records.
- Emergency preparedness and response programmes.
- Investigation and reporting of incidents and/or accidents (internal to Client and Department of Labour / Compensation Commissioner).

3.0 SHE Specification Requirements

3.1 General Requirements of Health and Safety Plan

General

Construction Regulation 7 (1) stipulates that the principal contractor must provide and demonstrate to the client a suitable sufficiently documented and coherent site specific health and Safety Plan, based on the client’s documented Health and Safety Specification contemplated in Regulation 5(1)(b), which plan must be applied from the date of commencement of and for the duration of the construction and which must be reviewed and updated by the principal contractor as work proceeds.

It will be expected from the Contractor to include in his safety plan method statements on how to accomplish the requirements relating to the Construction Regulations, 2014 and related incorporated standards and regulations.

Contractors should describe how their safety management systems will work and what control procedures they plan on using to ensure safety on the construction site.

The following generic aspects should be covered in the Safety plan:

- What administrative procedures the Contractor envisages to use in the implementation and maintenance of the safety plan with reference to the construction site.

- How continuous assessment of the safety plan will be assessed and implemented with respect to construction site.
- What control systems the Contractor envisages to implement on site to support his safety program.
- How the Contractor will ensure that he adheres to the construction regulations in respect of competent persons for appointments.
- What external resources the Contractor envisages on using to ensure successful implementation and sustainability of the safety plan.
- What training to employees the Contractor envisages and how he would go about to execute it.
- The Contractor should indicate which competent persons he plans on employing.

The Principal Contractor shall supply a detailed Health and Safety Plan for review by the Employer, prior to site mobilization, to ensure compliance with the Construction Regulations, 2014. Mobilization shall be dependent upon the acceptance of the Contractor's Health and Safety Management Plan by the Employer.

3.2 Outline of Health and Safety Plan

The Contractor's Health and Safety Plan prepared in accordance with this specification shall consist of at least the following sections and sub-sections:

1. Aim and Scope of Plan.
2. Risk Assessment.
 - a. Alternative Forms of Risk Assessment.
 - b. Methodology of Risk Assessment.
 - c. Elements of Risk Assessment.
 - i. Scope of assessment.
 - ii. Risks Identified.
 - iii. Risk Analysis.
 - iv. Risk Evaluation.
 - v. Risk Treatment.
 - vi. Monitoring and reviewing.
3. Resources.
 - a. Health and Safety Staffing Organogram.
 - b. Supervisors, Inspectors and Issuers.
 - c. Employees.
 - d. Subcontractors inclusive of their scope of work and their core resources.
 - e. Training.
 - f. Plant.
 - g. Vehicles.

- h. Equipment.
4. Materials.
 - a. Temporary Materials.
 - b. Permanent Materials.
5. Categories of Work.
6. Implementation of Health and Safety Plan.
 - a. Administrative systems.
 - b. Training.
 - c. Reporting.
 - d. Monitoring.
 - e. Inspections.
7. Auditing,.
 - a. Internal audits.
 - b. Follow-up audits.
8. Financial Aspects.
9. Emergency procedures and response.

3.2.1 Risk Assessment

3.2.2 General

This section of the specification provides guidelines for the Contractor in preparation of risk assessments in order to ensure compliance with Regulation 9 of the Construction Regulations, 2014. This section highlights the principles related to the preparation of suitable and sufficient risk assessments. Contractor Staff intending to prepare risk assessments should be trained and suitably experienced in the application envisaged.

A suitable and sufficient risk assessment is an assessment which -

- accounts for risks that are likely to arise during the construction of the Works;
- enables the development and implementation of systems to manage the risks;
- remains valid for a reasonable period of time;
- provides a basis for training of employees; and
- improves working procedures and introduce long term controls.

The requirements of the Construction Regulations will not be satisfied by a single risk assessment exercise that holds good for all time. The risk assessment process on the Works is an ongoing process.

The objectives of risk assessments are to –

- identify the risks that are mostly in need of reduction;

- identify the various options for achieving such reduction;
- identify the risks that require careful ongoing management; and
- identify the nature of the required ongoing attention.

3.2.3 Forms of Risk Assessment

In order to ensure compliance with the Construction Regulations, the Contractor will be required to carry out the following three forms of risk assessment:

3.2.4 Baseline or datum risk assessments

The Contractor will be required to carry out a risk assessment before the commencement of construction activities on the Works. This “baseline” or “datum” risk assessment will form part of the Contractor’s Health and Safety Plan. The risks and hazards to which persons, plant, vehicles and facilities may be exposed during the construction of the Works should be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

3.2.5 Issue based risk assessments

The Contractor will be required to carry out separate risk assessments during construction of the Works when methods and procedures are varied, for example when –

- designs are amended;
- new machines are introduced;
- plant is periodically cleaned and maintained;
- plant is started-up or shut-down;
- systems of work change or operations alter;
- incidents or near-misses occur; or
- technological developments invalidate prior risk assessments.

3.2.6 Continuous risk assessments

The Occupational Health and Safety Act specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk-free environment on an ongoing basis. This is achieved by continuous risk assessments, the most important form of risk assessment that takes place as an integral part of day-to-day management.

Examples of continuous risk assessments include the following:

- Regular audits.
- Maintaining general hazard awareness.
- Pre-work risk assessment.

3.2.7 Methodology for the Preparation of Risk Assessments

The Contractor shall in the preparation of his risk assessments, follow the following general principles:

- Employ a team of suitably qualified individuals with appropriately varied and relevant experience in risk assessment.
- The appointed risk assessor shall lead the risk assessment.
- Provide the team with background data, scope of work, potential hazards and underlying causes.
- Where necessary employ experts for complex risk assessments and aspects of risk assessments that require experiential judgment.
- Institute an ongoing system of identifying aspects of the work that require risk assessment.
- Conduct risk assessments in workshops of the team or by individual members of the team under guidance of the leader as appropriate to the situation.

3.2.8 Elements of a Risk Assessment

General

The process of carrying out a risk assessment consists of a number of well-defined steps. These steps improve decision-making by providing a greater understanding of the risks and their impacts.

The main steps or elements of the risk assessment process are as follow:

- 1) Consider scope and nature of risks involved, determine purpose and physical and legal bounds of assessment and define risk evaluating criteria.
- 2) Systematically identify risks.
- 3) Analyse risks with regard to causes, likelihood of occurrence and possible consequences against the background of existing controls and its effectiveness.
- 4) Evaluate risks in terms of pre-established criteria to determine need and priority for attention.
- 5) Treat risks through a process of risk elimination, substitution, controlling risk at source, risk mitigation such as training and as far as risk remains, provide personal protective equipment (PPE).

- 6) Monitor and review progress and performance in terms of management system, and
- 7) Communicate and consult.

The following items form the continuing process of the risk assessment as indicated in Figure 1, below.

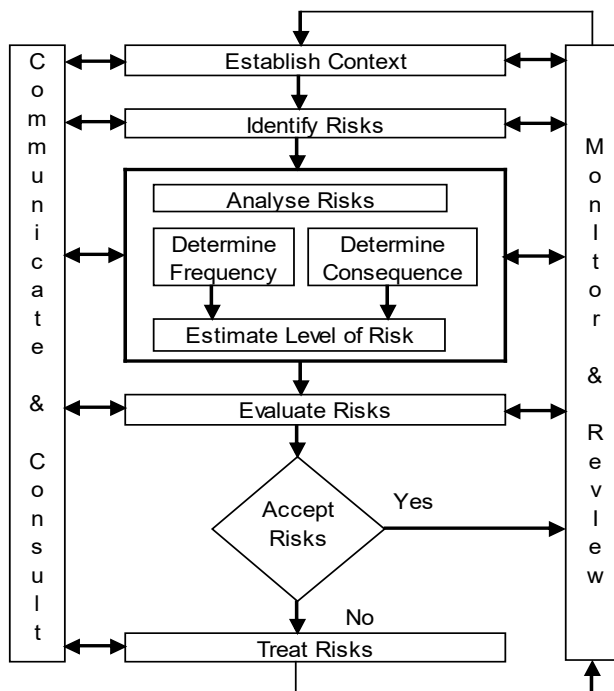


Figure 1: Risk Management Process

The Contractor shall ensure that the risk assessment compiled as part of his Health and Safety Plan contains at least these items. Refer to Baseline Risk Assessment for more clarity.

3.2.9 Risk Identification

The Contractor should regard this step of the risk assessment as the most important. Subsequent analysis and evaluation of risks and the development of risk control measures are wasted if the risks or hazards on the Works are not carefully identified.

The Contractor should bear the following principles in mind when identifying the risks:

- i) Systematically address all risks or hazards on the Works.
- ii) Review all aspects of the work but consider only those that have a potential to cause harm.
- iii) Rank the risks identified in order of importance and then use appropriately advanced techniques to deal with major risks.
- iv) Deal mainly with major risks and don't obscure these with unimportant information, especially minor risks.

- v) Address what actually happens in the workplace during the work activity.
- vi) Consider all persons that may be affected.
- vii) Highlight those groups and individuals who may particularly be at risk.
- viii) Review the adequacy and effectiveness of existing safety controls and measures.

3.2.10 Risk Analysis

In this step, the Contractor will be required to analyse the risks identified by determining each risks frequency and magnitude or severity of the consequence of the risk or hazard.

The frequency of occurrence of a hazard may be expressed as the number of times that it may occur in year, decade, lifetime, century, or longer period, according to comparative human experience. The magnitude of the likely consequence of a hazard may be expressed in terms of the degree of incapacitation, number of people or costs involved. The frequency of occurrence of a hazard and the magnitude of its consequence may be compounded as the risk that it poses as shown in the “risk matrix” in Figure 2 below.

Frequency of Occurrence of Hazard	Severity of Consequences of Potential Hazard					
	1 Medically treatable injury	1 Compensable injury	10 Compensable injuries	1 Permanently disabling injury	1 Fatality	10 Fatalities
Frequent; 1 or more occurrences per year	Medium	High	Very high	Severe	Severe	Severe
Several times during a career; 0.1 occurrences per year	Medium-low	Medium	High	Very high	Severe	Severe
Unlikely, but possible during a career; 0.01 occurrences per year	Low	Medium-low	Medium	High	Very high	Severe
Very unlikely during a career; 0.001 occurrences per year	Low	Low	Medium-low	Medium	High	Very high
Barely credible; 0.0001 occurrences per year	Low	Low	Low	Medium-low	Medium	High

Figure 2: Compounded Risk Matrix

The columns in the table represent the likely consequence of the hazard and the rows, the frequency of occurrence. The scales for both quantities represent consistent progressions, albe they qualitative. The risks evidently range from low to severe. Note that diagonals in the matrix represent the risks of the identified hazards, taking the effectiveness of controls into consideration.

The table represents a typical risk matrix that need not necessarily be adopted by the Contractor. The Contractor may use an alternative risk matrix provided that it is approved as part of his Health and Safety Plan.

3.2.11 Risk Evaluation

In this step the Contractor will be required to compare the assessed risk with similar risks previously experienced for the purpose of deciding how to treat the risk.

A useful systematic approach for this purpose is as follows:

- If the assessed risk exceeds similar risks that have occurred in the past and that are considered to be unacceptable, the assessed risk would require treatment depending upon its magnitude as discussed in Section 4.4.5, or
- If the assessed risk exceeds similar historical risks that are acceptable, treatment of the assessed risk will depend on the extent by which it exceeds the historical risks, or
- If the assessed risk is less than historical risks that are unacceptable, treatment of the assessed risk will depend on the extent by which it is less than the historical risks, or
- If the assessed risk is less than historical risks that are acceptable, the assessed risk would also be acceptable and would not require any treatment.

3.2.12 Risk Treatment

In this step, the Contractor will select and implement appropriate measures for dealing with risk.

Typically measures comprise the following:

- Elimination by changing designs, procedures, management methods, etc, applicable to high frequency–high consequence risks, or
- Reduction by changing designs, procedures, management methods, etc, applicable to high frequency–high consequence risks, or
- Minimization by changing designs, procedures, management methods, etc, applicable to high frequency–low consequence risks, or
- Transfer or share whole or part of the risk to another party by insurance, contractual arrangements or organizational structures, applicable to low frequency–high consequence risks, or
- Control to ensure that risks do not increase, applicable to low frequency–high consequence risks, or
- Retention together with provision of monitoring and personal protective equipment,

applicable to low frequency–low consequence residual risks after reduction, or

- Acceptance without particular action other than provision of personal protective equipment, applicable to low frequency–low consequence risks.

The following principles enable the optimum treatment to be determined:

- Avoid risks altogether if possible, by using different approaches, substances or methods of work.
- Combat risks at source rather than by adopting secondary measures.
- Adapt work to the individual rather than the individual to the work, that is, in the design consider the people and their attributes that will operate the system.
- Take advantage of technological and technical progress.
- Risk prevention measures must be part of a coherent policy and approach to safety management that involves performance measurement, goal setting, feedback and analysis.
- Give preference to measures that protect the whole work force.
- Ensure that those for whom protection is provided understand what they need to do to make sure that the protection works.
- Ensure that measures to control risks are an accepted part of an active health and safety culture supported by all levels of the organization; single risk reduction initiatives invariably fail.

3.2.13 Reporting and Recording

The Contractor shall ensure that the risk assessment process is recorded in the form of a report and included in his Health and Safety Plan. The report should be easily accessible to the Contractor's employees, their representatives, to inspectors, the Employer or his Safety Agent and the Engineer.

The essential contents of the report should be as follows:

- Objectives and expected outcomes.
- Description of the Works under assessment.
- Summary of context of study.
- Composition of risk assessment team, (including qualifications and relevant experience).
- Approach used to systematically identify risks.
- Identified risks (ranked in order of priority).
- Method adopted for assessing frequencies and consequences of risks.
- Consequences (ranked in order of magnitude).
- Identification of individuals and groups who may be affected by major hazards and risk and who may especially be at risk.

- Basis for defining safety standards to be achieved.
- Contractor's resources devoted to risk assessment.
- Actions proposed to reduce unacceptably high risks.
- Review effectiveness of existing safety measures to control risks.
- Implementation of programme of selected treatments (including controls to manage unacceptably high risks).

3.2.14 Monitoring and Review

It is necessary to monitor risks, the effectiveness of the risk treatment plan and the strategies and management system set up to control implementation. Control of the risk management program entails the setting of standards, monitoring actual performance, comparing the performance with the standards and correcting any deviations from the standard. Risks and the effectiveness of the control measures need to be monitored to ensure changing circumstances do not alter risk priorities. Few risks remain static.

Ongoing review is essential to ensure that the management plan remains relevant. Factors that affect the likelihood and consequences of an outcome may change, as may factors that affect the suitability or cost of the various treatment options. If an accident occurs, or if more is learnt about the hazards in the workplace, the risk assessment may need to be reviewed or modified. Hazards may be observed that have not been anticipated or previously identified and which may require appropriate measures to be taken. After an accident has occurred, it is important to determine whether it was predicted, whether preventive measures were identified, and if so, why they did not work, whether the risk assessment is still suitable and sufficient if it failed to predict the accident, whether the decision to accept a predicted risk as tolerable is still valid, why the accident occurred and what should be done to prevent similar accidents occurring again. It is therefore necessary to regularly repeat the risk management cycle, the time between reviews being dependent on the nature of the risks and the degree of change likely to take place in the work activity. Review is an integral part of the risk management treatment plan.

3.2.15 Communication and Consultation

The Contractor will be required to communicate and consult with internal and external stakeholders during each step of the risk assessment process. Stakeholders will include the Employer and his Safety Agent, the Engineer and the Contractor's employees and consultants.

Effective communication will ensure that those responsible for implementing the risk management process and those with a vested interest, understand the basis on which decisions are made and why particular actions are taken. It will also ensure that the perceptions of all those involved are noted and accommodated during the process.

3.3 Resources

General

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health And Safety Act, 1993 and all its Regulations and related incorporated standards with regards to the resources and facilities intended for use on the temporary and permanent Works.

3.4 Employees

Inspectors, supervisors and Issuers

The Contractor shall provide in his Health and Safety Plan his intended Staffing Organogram for the Works. The organogram should include those inspectors, supervisors and issuers as envisaged in the Construction Regulations, 2014 required for the Works and any additional supervisory staff members as the Contractor (having taken the scope of the Works into account) considers necessary.

Copies of the supervisory staffs' curriculum vitae or portfolio of evidence and their appointment letters should be appended to the Contractor's Health and Safety Plan.

The Contractor's Health and Safety Plan should in addition cover at least the following aspects:

- The number of unskilled, semi-skilled and skilled (including Foreman, Charge hands, Artisans, Operators, Drivers, Clerks, Storeman and Team Leaders) employees he intends employing on the Works.
- The health and safety training to be provided to the Contractor's employees.
- The programme of the health and safety training.
- Systems for the review of the effectiveness of the training provided.
- Systems to determine further training requirements throughout the construction period.

Pro-forma letters of appointment for the various inspectors, supervisors and issuers as contemplated in the Construction Regulations, 2014 are included in Annexure 1 to this specification for use by the Contractor. The Contractor shall ensure that he includes in his Health and Safety Plan the appointment letters for all his inspectors, supervisors and issuers appointed for the Works.

The Contractor may make other additional legal appointments that are applicable to the project.

3.5 Subcontractors

The Contractor shall with reference to the use of subcontractors on the Works and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- The steps intended to ensure that his Subcontractors prepare, implement and maintain Health and Safety Plans.
- How health and safety information will be made available to his Subcontractors when changes are brought about to the design.
- How he intends determining that his Subcontractors are registered and in good standing with the compensation fund or with a licensed compensation insurer prior to the commencement of the Works.
- How he intends determining if his Subcontractors have made provision in their tenders for the cost of health and safety measures during the construction of the Works.
- How he intends satisfying himself on the competencies and resources of Subcontractors he intends appointing.
- How he intends ensuring that his Subcontractors perform risk assessments prior to commencing their respective portions of the Works.

3.6 Competencies

The Contractor shall establish if a person is competent to perform a certain duty or be appointed in a certain capacity by requesting all candidates to supply the required certificates of competency. Where certificates of competencies cannot be delivered, the Contractor shall request a portfolio of evidence from the respective candidates.

Contractors should do enquiries at the South African Qualifications Authority (SAQUA) relating to the qualifications required for appointment of competent persons.

3.7 Physical and Psychological Fitness

Were required by the Occupational Health & Safety Act and its regulations the contractor shall ensure that his employees are in possession of a valid medical certificate of fitness to work in such an environment.

In terms of the Construction Regulations 2014, Regulation 7(8) stipulates that the Contractor shall ensure that all his or her employees have valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

3.8 Plant, Vehicles and Equipment

3.8.1 Suspended platform

The Contractor shall with reference to Regulation 17: Suspended platforms of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends complying with SABS 1808 and SABS 1903.
- What systems he intends using to ensure the safety of all suspended platforms,.
- What tests will be performed to establish the safety of suspended platforms.
- How he intends maintaining suspended platforms being used.
- How he will document the design, testing, maintenance and inspections of the suspended platforms.

3.8.2 Material hoists

The Contractor shall with reference to Regulation 19: Materials Hoist, of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends confirming the construction stability of the material hoists.
- What systems he intends using to ensure the safety of all material hoists.
- What tests will be performed to establish the safety of all material hoists.
- How he intends maintaining the material hoists being used.
- How he will document the design, testing, maintenance and inspections of all material hoists.
- What safety procedures and precautions are envisaged to ensure safe operation of the materials hoists.

3.8.3 Bulk Mixing Plant

The Contractor shall with reference to Regulation 20: Batch plants of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- What systems he intends using to ensure the safety of all bulk mixing plants.
- How he intends maintaining the batch plants in use.
- How he will document the design, testing, maintenance and inspections of batch plants in use.

3.8.4 Explosive actuated fastening Device

The Contractor shall with reference to Regulation 21: Explosive actuated fastening device, of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends controlling the issuing of explosive powered tools.
- How he intends implementing safety procedures prior to use of explosive powered tools.
- What safety measures will be required during the use of explosive powered tools.

3.8.5 Cranes

This section of the specification shall be read in conjunction with the provisions of the Driven Machinery Regulations, 1988.

The Contractor shall with reference to Regulation 22: Cranes, of the Construction Regulations, 2003 and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How will environmental factors be taken into account in respect to the use of cranes.
- What systems he intends using to ensure the safety of all cranes in use.
- How he intends maintaining cranes in use.
- What tests will be performed to establish the safety of all cranes in use.
- What safety procedures and precautions are envisaged to ensure the safe operation of all cranes in use.
- How he will document the design, testing, maintenance and inspections of all cranes in use.
- The contractor shall proof compliance of the Driven Machinery Regulation, 1988, with reference to the lifting machinery and tackle being used.
-

3.8.6 Construction vehicles and mobile plant

The Contractor shall with reference to Regulation 23: Construction vehicles and mobile plant of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends ensuring that construction vehicles and mobile plant are -
 - of acceptable design and construction;
 - maintained and in good working order;
 - used according to design specifications; and
 - are protected from falling into excavations, water or areas lower than the working surfaces.
- How he intends ensuring that workers are trained, authorised and physically fit to operate construction vehicles and mobile plant.
- What traffic arrangements and safety precautions will be implemented to ensure safe operation of construction vehicles and mobile plant on the Works.
- How he intends safeguarding employees against construction vehicles and mobile plant moving on the construction site.

3.9 Electrical Installation and Machinery on construction sites

This section of the specification shall be read in conjunction with the provisions contained in the Electrical Installation Regulations, 1992.

The Contractor shall with reference to Regulation 24: Electrical Installation and machinery on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends safeguarding employees against electrical cables or apparatus under, over or on site.
- How he will ensure that electrical installations are of adequate strength to withstand working conditions on a construction site.

3.10 Ladders

The Contractor shall with reference to Regulation 13A of the General Safety Regulations and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends ensuring that ladders used are safe and constructed of materials approved for its intended use.
- What precaution will be made to ensure the stability of ladders in use.

3.11 Materials

General

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 1993 and all its regulations and related incorporated standards with regards to the design, supply, storage and erection of materials used for the temporary and permanent Works.

3.12 Fall Protection Equipment

The Contractor shall with reference to Regulation 10: Fall Protection Equipment of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- Compilation of a fall protection plan.
- How the fall protection plan will be implemented and maintained.
- How employees will be screened and declared medically fit to work in areas where fall protection equipment is needed.
- How the safeguarding of persons, plant, vehicles, equipment and facilities on the construction site is contemplated.
- Training of staff working at heights and in the use of fall protection equipment.
- How a continuous assessment of the situation will be executed.
- How fall protection equipment will be inspected for safety.
- How corrective actions will be implemented.
- Emergency plans and procedures for treatment of incidents relating to falls from height.

3.13 Scaffolding

The Contractor shall with reference to Regulation 16: Scaffolding of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How compliance with SABS 085 will be ensured.
- How scaffolding in use will be maintained.
- What systems are intended to ensure the safety of scaffolding used.
- What tests will be performed to establish the safety of scaffolding used.
- Training plan for scaffold erectors and inspectors.

3.14 Use and temporary storage of flammable liquids on construction sites

This section of the specification shall be read in conjunction with the provisions for the use and storage of flammable goods as determined in the General Safety Regulations.

The Contractor shall with reference to Regulation 25: Use and temporary storage of flammable liquids on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How flammable liquids will be stored to minimize the risk of fire or explosions.
- How the contractor will identify a flammable store.
- What safety precautions will be employed if ventilation of the flammable store is not possible.
- How access to flammable stores will be controlled.
- How empty vessels used for the storage of flammable liquids will be disposed of.
- What quantity of flammable liquids will be stored on the construction site.
- What systems are intended to ensure the safe storage of flammable liquids.
- What retaining methods will be used to prevent the spreading of any spillage.

3.19 Stacking and storage

This section of the specification shall be read in conjunction with the provisions for the stacking of articles contained in the General Safety Regulations.

The Contractor shall with reference to Regulation 28: Stacking and storage on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- Who will supervise the stacking and storage of materials on site.
- What systems are intended to ensure the safe stacking and storage of materials on the site.

3.16 Personnel Safety Equipment and Facilities

The Contractor shall comply with Section 2 of the General Safety Regulations and shall in particular provide all necessary personnel protective equipment for his personnel for the duration of the construction period. To this end the Contractor shall without limiting his obligations indicate in his Health and Safety Plan:

- Identify training requirements in the Contractors Training plan in the use and maintenance of personal protective equipment.
- The type of personnel safety equipment he will provide.
- How he intends issuing it to his employees.

- How he will maintain the personnel safety equipment issued.

3.17 First Aid, Emergency Equipment and Procedures

The Contractor shall comply with Section 3 of the General Safety Regulations regarding first aid, emergency equipment and procedures.

3.18 Operational Control of the Construction Site

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 1993 and all its regulations and related incorporated standards with regards to the execution of the following categories of work.

General

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

3.18.1 Construction employees' facilities

Contractors will be required to adhere to Regulation 30: Construction welfare facilities of the Construction Regulations, 2014.

This regulation must be read in conjunction with the provisions of the Facilities Regulations, 1990 (as amended) and SANS 0400.

The Contractor must discuss the following in detail in his safety plan:

- How will the Contractor establish the number of facilities required for employees to shower, change, eat and attend to sanitary needs.
- What measures will the employer take to house employees on site who lives far from their residences or for the provision of transport.

3.18.2 Environmental Conditions

The Contractor shall comply with the Environmental Regulations for Workplaces, 1987, and shall address the following aspects as described in the regulations in his Health and Safety plan:

- Thermal requirements.
- Lighting.
- Windows.

- Ventilation.
- Housekeeping.
- Noise and hearing conservation.
- Precautions against flooding.
- Fire precautions and means of egress.

3.18.3 Housekeeping on construction sites

Contractors will be required to adhere to Construction Regulation 27: Housekeeping on construction sites, of the Construction Regulations, 2014.

This regulation must be read in conjunction with the provisions of the Environmental Regulations for Workplaces, 1987 (as amended).

The Contractor must discuss the following in detail in his safety plan:

- How will contractors ensure the neatness of construction sites.
- What measures does the Contractor envisage to -
 - store and/or stack materials;
 - remove debris from site;
 - prevent unauthorized entrance to the site; and
 - protect employees or passers-by from falling objects.

3.18.4 Fire precaution on construction sites

Contractors will be required to adhere to Construction Regulation 29: Fire precautions on construction sites, of the Construction Regulations, 2014.

This regulation must be read in conjunction with the provisions of the Environmental Regulations for Workplaces, 1987 (as amended).

The Contractor must discuss the following in detail in his safety plan:

- How the Contractor will minimize the risk of fire on the site.
- How the Contractor will identify potential fire hazards.
- What prohibitions the Contractor will implement to manage risk areas.
- How many employees the Contractor will train in firefighting.
- What organization the Contractor envisage to combat fires on sites.
- What precautions and procedures will be followed to evacuate employees in the case of a fire.

3.18.5 Water Environments

The Contractor will be required to adhere to Construction Regulation 26: Water Environments, of the Construction Regulations, 2014.

The Contractor must discuss the following in detail in his safety plan:

- What precautions will the Contractor take to identify dangers where employees may fall into water.
- What safety procedures and equipment will the Contractor implement to safeguard employees working at water environments.

3.18.6 Hazardous Chemical Substances

The Contractor will be required to adhere to the Regulations for Hazardous Chemical Substances 1995 as amended in the handling and storage cement of and other hazardous chemical substances.

The Contractor must discuss the following in detail in his safety plan in respect of each hazardous chemical substance that will be used in the works:

- Storage of substance.
- Handling of substance.
- Protective clothing and other devices to be used while handling the substance.
- Medical surveillance.

3.18.7 Demolition work

Contractors will be required to adhere to Construction Regulation 14: Demolition work, of the Construction Regulations, 2014.

The Contractor shall discuss the following in detail in his safety plan:

- Briefly explain how he will safeguard people and property during and after demolition works.
- Briefly explain how he will protect staff from dangerous situations.
- Discuss the methods proposed to safeguard the public and property against harm during demolition works.
- Discuss what type of equipment he envisages to use during demolition work.
- How will the Contractor ensure the safety of equipment used during demolition work.
- What steps will the Contractor deem necessary to take where hazardous materials is encountered.

- Dust control measures.
- Noise control measures.

3.18.8 Earthworks

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

3.18.8.1 Excavation work

Contractors will be required to adhere to Construction Regulation 13: Excavation work, of the Construction Regulations, 2014.

The Contractor must discuss the following in detail in his safety plan:

- How will the Contractor establish the stability of ground prior to excavations.
- What steps will the Contractor follow to ensure that bolstering, shoring and bracing is sufficient to ensure the safety of the excavation.
- What steps will the Contractor follow to ensure the equipment used to safeguard an excavation is sufficient and safe.

3.18.8.2 Formwork and support work

The Contractor shall with reference to formwork and support work, without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How the design of formwork and support work will be carried out.
- How the erection of formwork and support work will be managed.
- How the continuous assessment of the safety of formwork will be done.
- How the loading of formwork and support work will be managed or limited.
- How he intends keeping records of the above.

3.18.8.3 Pipes

The Contractor shall comply with Section 9 of the General Safety Regulations, with regards to the welding, flame cutting, grinding, soldering or similar operations associated with pipework.

3.19 Implementation of Contractors' Health and Safety Plan

General

The Contractor shall describe in his Health and Safety Plan how he intends implementing his plan.

The Contractor shall indicate the methods he intends using to ensure accurate record keeping of all critical elements identified in his risk assessment and covered in his Health and Safety Plan.

The Contractor shall indicate how internal audits will be carried out, how shortcomings will be addressed, how he intends to review the safety plans, how he would train staff and how he would implement the findings and recommendations of internal audits or inputs of employees.

3.20 Administrative Systems

The Contractor shall comply with Section 9 of the General Administrative Regulations, 1996. The Contractor's administrative system shall without limiting his obligations, cover the following:

- Upkeep of a safety file on site.
- Maintenance of his Health and Safety plan.
- Procedures to follow for the appointment of competent persons.
- Application for permits.
- Procedures to follow for notifications.
- Injury on duty [IOD] administration.
- Recording of minutes of safety meetings.
- Recording of checklists.
- Safe keeping of checklists.
- Internal audits.

The Contractor shall in particular ensure that at least one copy of the Occupational Health and Safety Act, 1993 and its Regulations is available on the for every 20 employees employed.

3.21 Reporting Systems

The Contractor shall comply with Section 9 of the General Administrative Regulations, 1996 and shall in particular (in accordance with section 12) furnish an inspector with information relating to health and safety on the construction site, when requested to do so.

The Contractor shall notify the Employer of any investigations, complaint or criminal charge which may arise as a consequence of the provision of the Occupational Health and Safety Act, 1993 and its Regulations, pursuant to work performed in terms of this Contract.

3.22 Training

The Contractor shall train all his employees in accordance with the requirements of section 13 of the Occupational Health and Safety Act, 1993. The Contractor shall ensure that every employee is informed

of the following:

- The hazards of any work he has to perform or plant machinery or equipment he is permitted to use.
- The precautionary measures which should be taken regarding the above.

The Contractor shall, without limiting his obligations, indicate in his Health and Safety Plan how he intends -

- identifying the training needs of the personnel he intends employing;
- implementing the training identified; and
- what proof of induction training will be carried by his employees (e.g., laminated type identification card).

3.22.1 General induction Training

All members of the contractor's management as well as all the people appointed as responsible for Occupational Health and Safety in terms of the OHS Act, Construction Regulations and other Regulations are required to attend a general safety Induction.

All employees of the principal contractor and other contractors must be in possession of proof of Induction Training.

All subsequent and newly appointed employees must also be subjected to the Induction Training as soon as possible after the appointment but prior to starting work on site.

3.22.2 Site Specific Induction Training

The principal contractor will be required to prepare the Task based Induction training based on the risk assessment for the contract work and train all employees who will be involved in the selected task. All employees must have a proof of such training and copies in the Safety File

3.22.3 Other Training

1. All operators, drivers and users of construction vehicles and mobile plants must be in possession of a valid proof of training and where applicable licenses and proof of competency.
2. All employees in jobs requiring training in terms of the OHS Act and Regulations must be in possession of valid proof of training.

3.23 Awareness and Promotion

The principal contractor is required to have a promotion and awareness programme in place to create an Occupational Health and Safety culture within employees as well as subcontractors.

The following are some of the methods that may used:

- Toolbox Talks.
- Posters.
- Videos.
- Competitions.
- Participative activities such As Occupational Health and Safety Circles.

3.24 Notices and Signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the contraction yards.

Area/Activity where construction sign is needed	Notice or sign required in
Display of notices and signs	General Safety Regulation 2b
Entry	General Safety Regulation 2 (c)
First Aid	General Safety Regulation 3 (6)
Toilets and Change rooms	Facilities Regulation 2(5).4 (2) (f)
Hazardous and Chemical Storage area	General Safety Regulation 4 (8) (i) and (ii)
Machinery	General Machinery Regulation 9
Explosive Powered tools	
Prohibition of smoking and eating or drinking at workplaces where high risk substances are stored or handled	Facilities Regulation 7

3.25 Safety Meetings

The Contractor shall conduct at least one formal safety meeting per month with his employees to ensure safety awareness and shall maintain appropriate records of attendance and meeting content. Such records shall be made available to the Employers Safety Agent.

Such meetings shall address at least the following:

- Accident / safety incidents.
- Hazardous conditions.
- Hazardous materials / substances.
- Job or work projections.
- Work procedures.
- Protective clothing / equipment.
- Housekeeping.

- General safety topics.

3.26 Occupational Health and Safety Committees

The principal contractor must establish Occupational Health and Safety committees consisting of all designated Occupational Health and Safety Representatives together with a number of management Representatives that are not allowed to exceed the number of Safety Reps on the committee. The client's representative shall be the chairperson without voting rights. The members of the Safety Committee must be appointed in writing and the copies of the appointments in the Safety File.

The Safety Committee must meet but at least twice a month and consider at least the following agenda items:

- Opening and Welcome.
- Members present, apologies and absent.
- Minutes of previous meeting.
- Matters arising from the previous meeting.
- Safety Representatives reports.
- Incident and/or accident investigation reports and investigations.
- Incident, accident and /or injury statistics.
- Other matters.
- Endorsement of registers and other statutory documents by a duly authorized representative of the principal contractor.
- Close and next meeting.

3.27 Inspections and Monitoring

The Contractor shall be required to inspect each workplace prior to works commencing to ensure that all protective equipment is in place and that by entering the workplace no person will be exposed to any hazard which could affect his health or safety.

The Contractor shall without limiting his obligations, indicate the following in his Health and Safety Plan:

- The inspection and monitoring procedures he intends employing to determine the safety of workplaces.
- Who will be responsible for the checking of each workplace at the commencement of each shift.

The Contractor shall include in his Health and safety Plan all the checklists he intends using during the inspection and monitoring of the implementation of his Health and Safety Plan.

The Contractor can expect inspections of the works by any of the following parties:

- The Employer or his Safety Agent,
- The Employer's Occupational Safety Officer, or
- The designated officer serving in the Department of Manpower and appointed by the Minister as Chief Inspector or his representative.

In addition to site inspections performed by the Employer or his safety agent they shall also do audits and assess the safety situation at the works and investigate incidents. Follow-up inspections will be performed to ensure compliance to recommendations done.

The Employer, his Safety Agent or his Occupational Safety Officer may stop the work at any time under the following conditions:

- If the Contractor is not compliant with his Health and Safety Plan
- Imminent threat to the health and safety of any person on site
- Continuous non-conformance to corrective action requests.

Inspections by the Chief Inspector or his representative will be by appointment and the purpose would be to investigate complaints received by the Inspector or to investigate serious incidents.

The Chief Inspector or his representative may issue prohibition notices to stop the activities at the works until the situation investigated has been resolved or he may issue an improvement notice whereby the Contractor will have a period to rectify any hazard identified by the inspector.

3.28 Auditing

Internal Audits

The audits contemplated in regulation 5 of the Construction Regulations, 2014 will be carried out by the appointed Safety Agent (MIH Projects).

The intervals for the audits shall be agreed between the Contractor and the Employer or his Safety Agent during the preparation of the Contractor's Health and Safety Plan but shall be carried out at least once every month or at such shorter interval that an inspector may require. The Employer or his Safety Agent shall provide at least 7 calendar days' notice prior to the conducting of an audit.

The findings of each audit will be made known to the Contractor and the Employer in a report prepared by the Employer or his Safety Agent and will be submitted to all parties within seven working days of the respective audit being completed. Any shortfalls identified will be documented in the audit report together with the Contractor's proposals to rectify the same. All audit reports will be filed in the Health and Safety File.

A date for a follow up audit will be negotiated with the Contractor to verify the implementation of all actions to rectify shortfalls as identified in the audit report.

The Contractor will ensure that the same arrangement detailed above be implemented with his Contractors to ensure his compliance with the Construction Regulations.

The audits described above only constitutes part compliance by the Employer or the Safety Agent with regulation 5.(1)(o) of the Construction Regulations, 2014.

Audits by Employer or Safety Agent

The Employer or Safety Agent will be entitled to carry out additional audits or follow-up audits, as the case may be, at any time during the construction period provided that:

- i) The audit or follow-up audit are carried out during ordinary working hours.
- ii) The Employer or Safety Agent gives the Contractor at least 24 hours' notice of his intention to carry out such audits.

The Contractor's employees indicated in Section 9.1 will be present during any audit carried out by the Employer or his Safety Agent.

ANNEXURE 1 LEGAL APPOINTMENTS TEMPLATES

Attention: **(Assistant Construction Manager's Name)**

APPOINTMENT OF THE ASSISTANT CONSTRUCTION MANGER IN TERMS OF CONSTRUCTION REGULATION 8(2)

I, **(contractor's name)** hereby appoint **(assistant construction supervisor's name)** as the assistant supervisor responsible for **(site address)** to carry out the construction work of **(description of construction work and area of responsibility)**.

In terms of this appointment, you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work.
2. That all persons are aware and understand the hazards attached to the work being carried out.
3. That the required risk assessments are carried out.
4. That precautionary measures are identified and implemented.
5. That discipline is enforced at the construction site at all times.
6. That all identified statutory requirements are met.
7. That any other interest in terms of health and safety with respect to the responsible area is met.
8. You will accept the duties of the Construction manager in his absence.

You are required to report any deviations of the above-mentioned instruction to **(construction manager's name)** and in his absence to the contractor's representative.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

You shall submit a written weekly report any non-compliance with the Construction Regulations, 2014.

Contractor's Representative full name Signature Date

.....
Kindly confirm your acceptance of this appointment by completing the following:

I, **(assistant construction manager)** understand the implications of the appointment as detailed above and confirm my acceptance.

Assistant construction supervisor's Signature Date
Attention: **(Safety Officer's Name)**

APPOINTMENT OF THE CONSTRUCTION HEALTH AND SAFETY OFFICER IN TERMS OF CONSTRUCTION REGULATION 8(5)

I, **(contractor's name)** hereby appoint **(safety officer's name)** as the Construction Health and Safety Officer responsible for **(site address)** to manage all the health and safety issues as required in terms of the Act by establishing a health and safety program with elected health and safety Representatives. You shall ensure that all the requirements in terms of the Act and in particular in terms of the Construction Regulations, 2014 are met. You shall also ensure that all appointed sub-contractors comply with the requirements as stipulated in the Construction Regulations, 2014. You shall further ensure that all records, registers and required lists are maintained and shall stop construction work upon identifying any non-compliance by any contractor; this includes stopping any work should the competency of the person carrying out such work be questionable.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

Contractor's Representative full name Signature Date

.....
Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction health and safety officer's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Construction Health & Safety Officer's full name Signature Date

Attention: **(Construction Vehicle and Mobile Plant Inspector)**

APPOINTMENT OF THE CONSTRUCTION VEHICLE AND MOBILE PLANT INSPECTOR IN TERMS OF CONSTRUCTION REGULATION 23(1) (d)

I, **(contractor's name)** hereby appoint **(construction vehicles and mobile plant inspector's name)** as the construction vehicles and mobile plant inspector responsible for **(site address)** to inspect on a daily basis all construction vehicles and mobile plant, as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to construction vehicles and mobile plant that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2014 are at all times met.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

Contractor's Representative full name Signature Date

.....
Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction vehicles and mobile plant inspector's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Construction vehicles and mobile plant Signature Date
Inspector's full name

Attention: **(Sub-Contractor's Name)**

APPOINTMENT OF SUB-CONTRACTOR IN TERMS OF THE CONSTRUCTION REGULATION 7(c)
I, **(contractor's name)** hereby appoint **(sub-contractor's name)** as the sub-contractor responsible for **(site address)** to carry out the construction work of **(description of construction work)**.

You shall ensure that you meet all the requirements in terms of the Act and in particular in terms of the section 37(2) agreement and the Construction Regulations, 2014. You shall also ensure that all contractors appointed by yourself and reporting to you comply with the requirements as stipulated in the Construction Regulations, 2003.

You shall also ensure that all the information and specifications to ensure that the construction work is carried out in a safe manner are carried over to all contractors appointed and reporting to you.

You shall further ensure that all records, registers and required lists are maintained and that all persons appointed to carry out tasks as stipulated by these regulations are competent and have the necessary resources to complete their tasks effectively in such a manner that health and safety is not in any manner compromised.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

Contractor's Representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(sub-contractor's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Sub-Contractor's Representative full name Signature Date

Attention: **(Construction Manger's Name)**

APPOINTMENT OF THE CONSTRUCTION SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 8(1)

I, **(contractor's name)** hereby appoint **(construction supervisor's name)** as the Supervisor responsible for **(site address)** to carry out the construction work of **(description of construction work and area of responsibility)**.

In terms of this appointment, you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work;
2. That all statutory appointments have been completed;
3. That, where required, health and safety committees are established and that meetings are accordingly held;
4. That all persons are aware and understand the hazards attached to the work being carried out;
5. That the required risk assessments are carried out;
6. That precautionary measures are identified and implemented;
7. That discipline is enforced at the construction site at all times;
8. That all identified statutory requirements are met; and
9. That any other interests in terms of health and safety with respect to the responsible area is met.
10. You will in writing delegate your duties to the Assistant Construction Supervisor while absent from site.

You are required to report any deviations of the above-mentioned instructions to **(contractor's name)**. This appointment is valid from **(date)** to the completion of the stipulated construction work. You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

Contractor's Representative full name

Signature

Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction manager)** understand the implications of the appointment as detailed above and confirm my acceptance.

Construction Manager's full name

Signature

Date

Attention: **(Excavation Work Supervisor's Name)**

APPOINTMENT OF THE EXCAVATION WORK SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 13 (1)(a)

I, (**contractor's name**) hereby appoint (**excavation work supervisor's name**) as the excavation work supervisor responsible for (**site address**) to supervise and carry out all the necessary inspections in terms of all excavation work as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to excavation work that that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations are at all times met.

This appointment is valid from (**date**) to the completion of the stipulated construction work.

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, (**excavation work supervisor's full name**) understand the implications of the appointment as detailed above and confirm my acceptance.

Excavation Work Supervisor full name Signature Date

Attention: (**Ladder Inspector's Name**)

APPOINTMENT OF THE LADDER INSPECTOR IN TERMS OF THE GENERAL SAFETY REGULATION 13(A)

I, (**contractor's name**) hereby appoint (**ladder inspector's name**) as the ladder inspector responsible for (**site address**) to manage ladders on site. You should inspect the ladders as per the checklist at least once a week.

You shall ensure that when becoming aware of any health and safety hazards in respect to ladders that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2003 are at all times met.

This appointment is valid from (**date**) to the completion of the stipulated construction work.

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, (**ladder inspector's full name**) understand the implications of the appointment as detailed above and confirm my acceptance.

Ladder inspector's full name Signature Date

Attention: **(Risk Assessor's Name)**

APPOINTMENT OF THE CONSTRUCTION SITE RISK ASSESSOR IN TERMS OF CONSTRUCTION REGULATION 9(1)

I, **(contractor's name)** hereby appoint **(risk assessor's name)** as the construction site risk assessor responsible for **(site address)** to carry out risk assessments prior to the commencement of construction work and any other risk assessment that may be required for the duration of the construction work. You shall ensure that all risks are identified and analysed and that safe working procedures are drafted and implemented to reduce, mitigate or controls the hazards that were identified. You will at least use the risk evaluation program with the provided checklists.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction site risk assessor's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Construction site Risk Assessor's Signature Date
full name

Attention: **(Stacking and Storage Supervisor's Name)**

APPOINTMENT OF THE STACKING AND STORAGE SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 28 (a)

I, **(contractor's name)** hereby appoint **(stacking and storage supervisor's name)** as the stacking and storage supervisor responsible for **(site address)** to manage all stacking and storage on site. You shall inspect all new stacking and thereafter as often as needed according to the checklist. You shall ensure that when becoming aware of any health and safety hazards in respect to stacking and storage that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced. You shall further ensure that the requirements of the Construction Regulations are at all times met. On identifying any shortfalls or hazards convey such information in writing to the construction supervisor.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

Contractor's Representative full name Supervisor Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(stacking and storage supervisor's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Stacking and Storage Supervisor's Signature Date

Attention: First Aider

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993), GENERAL SAFETY

REGULATIONS 3(4) – FIRST AIDER

I, _____, having been appointed as contemplated in Section 16(2) of the Occupational Health and Safety Act (85 of 1993), hereby appoint you, _____, as First Aider for the _____.

RESPONSIBILITIES

1. Ensure you inspect the contents of the first aid box at least once per month.
2. Ensure all dressing undertaken is recorded on the treatment register.
3. Ensure deviations noted are reported to your supervisor.
4. Ensure the necessary signage is placed to define first aid box placement and responsible first aider's name.

Kindly confirm your acceptance of this appointment and understanding of the duties involved by signing this legal appointment.

Yours faithfully

SECTION 16 (2) APPOINTEE

I accept the appointment as set out above and confirm my understanding of the duties involved.

Signed: _____

Date: _____

Attention: Safety Representative

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993)

SECTION 17 – HEALTH AND SAFETY REPRESENTATIVE

I, _____, having been appointed as contemplated in Section 16(2) of the Occupational Health and Safety Act (85 of 1993), hereby appoint you, _____, as Health and Safety Representative, as contemplated in Section 17 of the Occupational Health and Safety Act (85 of 1993).

You are hereby appointed from _____ until _____ as a Health and Safety Representative for the following project: _____.

RESPONSIBILITIES

1. Review the effectiveness of the Health and Safety measures within your area of responsibility;
2. Assess the potential hazards to the Health and Safety of the employees at the workplace;
3. Investigate the causes of incidents and all complaints from the employees relating to their Health and Safety;
4. Inspect the workplace and report on such inspection, and the aspects mentioned in (1), (2) and (3) above, to the employer;
5. Participate in the investigations into incidents, in your designated area as contemplated in Section 18 of the Occupational Health and Safety Act (85 of 1993).

Kindly confirm your acceptance of this appointment and understanding of the duties involved by

Contract: WS 19 2022/23 Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required
Part C3: Scope of work
Section: C3.7: Health and Safety Specification

signing this legal appointment.

Yours faithfully

SECTION 16 (2) APPOINTEE

I accept the appointment as set out above and confirm my understanding of the duties involved.

Signed: _____

Date: _____

ANNEXURE 2 IDENTIFIED HEALTH AND SAFETY HAZARDS

Identified Hazards

In terms of Regulation 9 (1) (a) of the Construction Regulations 2003 the following hazards anticipated with the scope of work have been identified.

NOTE: The list of potential hazards is by no means intended to be all inclusive and is not limited to this list, and it remains the responsibility of the Contractor to identify all possible hazards with regards to his scope of work and to put measures in place to mitigate, reduce or control these hazards.

Potential Hazards

1. Commissioning of new installations
2. Confined space entry
3. Demolition/breaking into existing structures
4. Excavation shoring / brazing
5. Excavations been flooded during rainy season
6. Explosives
7. Hazardous material handling / storage / management
8. Heat stress
9. Loading and offloading vehicles
10. Manual handling of materials
11. Plant and equipment integrity
12. Public and traffic safety
13. Requirements for plant isolations
14. Safe usage and storage of Oxygen, Acetylene and LPG cylinders
15. Scaffolding
16. Stacking and storage of equipment / materials
17. Tie-ins into existing equipment
18. Usage of compressed air and equipment
19. Work involving radioactive sources
20. Working in operational areas
21. Working on live electrical installations / sub-stations / MCC rooms
22. Working on moving equipment.

ANNEXURE 3 ACKNOWLEDGEMENT OF CITY OF TSHWANE OHS SPECIFICATION

Acknowledgement of CITY OF TSHWANE OHS Specification

Name of Contractor

I, the undersigned, hereby acknowledge that I have obtained copies of City of Tshwane OHS Specs and confirm that I fully understand them and the consequences of non-compliance.

Signed aton this Day of.....20.....

Signature of Contractor Manager

Date

Signature of Contractor Supervisor

Date

Witness 1 Witness 2

Contract: WS 19 2022/23 Tender for the appointment of Contractors for Conventional and Trenchless Replacement, Augmentation and Extension of Water network pipelines in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required
Part C3: Scope of work
Section: C3.7: Health and Safety Specification

CITY OF TSHWANE

WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 19 2022/23

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR CONVENTIONAL AND TRENCHLESS REPLACEMENT, AUGMENTATION AND EXTENTION OF WATER NETWORK PIPELINES IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.8 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN

1. INTRODUCTION

The EMP will address the environmental impacts during the design, construction and operational phases of a project. Due regard must be given to environmental protection during the entire road project. In order to achieve this a number of environmental specifications/recommendations are made.

These are aimed at ensuring that the Contractor maintains adequate control over the project in order to -

- Minimise the extent of impact during construction;
- Ensure appropriate restoration of areas affected by construction; and
- Prevent long term environmental degradation.

The contractor must be made aware of the environmental obligations that are stipulated in this document and declares himself/herself to be conversant of all relevant environmental legislation. The Contractor should also be aware that the Engineer will monitor the implementation of the procedures.

2. POLICY STATEMENT

The construction will be to the best management practices as identified to minimize the environmental impact of activities associated with the development.

3. OBJECTIVES OF THE EMP

The EMP has the following goals:

- Identifying those construction activities that may have a detrimental impact on the environment.
- Detailing the mitigation measures that will need to be taken, and the procedures for their implementation.
- Establishing the reporting system to be undertaken during the construction.

The EMP also serves to highlight specific requirements that will be monitored during the development and should the environmental impacts not have been satisfactory prevented or mitigated, corrective action will have to be taken. The document should, therefore, be seen as a guideline that will assist in minimising the potential environmental impact of activities.

4. DESIGNATED ENVIRONMENTAL OFFICER

For the purpose of the EMP, a nominated representative of the Contractor should be the designated environmental officer for the project. The nominated representative of the Contractor will therefore be responsible for ensuring that the provisions of the EMP are complied

with. The Engineer will be responsible for issuing instructions to the Contractor where environmental considerations call for action to be taken. The environmental officer will submit monthly reports to the Engineer on site who will verify the information.

5. LEGAL REQUIREMENTS

Under normal circumstances and EMP would be the end result or the final stage in the EIA procedure. However, a working agreement was negotiated between the National Department of Environmental Affairs and Tourism (DEAT) and the City of Tshwane Metropolitan Municipality. The agreement stipulates the project types the City of Tshwane Metropolitan Municipality need to submit to DEAT for approval and those project types of the City of Tshwane Metropolitan Municipality do not need to submit for approval. For those actions that do not need approval, the City of Tshwane Metropolitan Municipality undertook to compile generic EMP's to assist to minimising degradation to the area. The following project types fall in this non-approval category: periodic maintenance, special maintenance, rehabilitation and specific upgrades.

6. MITIGATION MEASURES

In setting mitigation measures, the practical implications of executing these measures must be borne in mind. With early planning, both the cost and the impacts can be minimised.

6.1 Establishment of site offices

6.1.1 Site plan

The Contractor shall provide the Engineer on site with a plan detailing the layout of site offices facilities, such as chemical toilets, areas for stockpiling of material, storage of hazardous materials and provision of containers. 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 along the route. If the route traverses water courses, streams and rivers, it is recommended that the site, and in particular the ablution facilities, aggregate stockpiles and hazardous material stockpiles are located as far away as possible from any water course as possible.

The site plan shall be submitted before the site hand over meeting. Read with Standard Specifications for Municipal Civil Engineering Works: Section 001 and 002.

6.1.2 Vegetation

The vegetation surrounding the site offices is to be left as intact as possible and vegetation planted at the site should be indigenous. Only trees directly affected by the works and such others as may be indicated by the Engineer in writing, may be sawn off/removed.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien invader plant shall be cleared by hand before seeding. Read with Specifications: 104 – Landscaping and grassing.

6.1.3 Rehabilitation

The site offices will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas are to be removed from the site on completion of the contract. Read with Specifications Sections 001, 002 and 104.

6.1.4 Water for human consumption

Water for human consumption must be tested and treated in accordance with recommendations.

6.2 Sewage treatment

Adequate toilet facilities are to be provided. Use of the veld for this purpose shall not, under any circumstances, be allowed. The Contractor 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. Latrines shall be positioned within walking distance from wherever employees are employed on the works.

Save and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak away, dry composting toilets such as “enviro loos”, or the use of 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 is to be done in consultation with the Site Engineer.

Read with Specifications 104.

6.3 Waste management

Waste management and waste minimisation must be implemented at the outset of the contract.

6.3.1 Litter

No littering by construction workers is allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site is to be kept free of litter. Read with Specifications Sections 001 and 002.

6.3.2 Removal of solid waste

Solid waste is to be stored in an appointed area for collection and disposal. A refuse control system must be established for the collection and removal of refuse to the satisfaction of the Engineer. Disposal of solid waste will be in a Department of Water Affairs and Forestry (DWAF) licensed landfill site.

6.3.3 Hazardous waste

Hazardous waste such as bitumen, tar, oils, etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care must be taken when using tar products such as tar prime or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

6.4 Soil management

6.4.1 Topsoil

The contract provides for the stripping and stockpiling of topsoil from the site for later reuse. Topsoil is considered to be of a minimum thickness of ± 300 mm of the natural soil, including all the vegetation and organic matter. The areas to be cleared of topsoil shall include the storage areas. Weeds appearing on the stockpiled topsoil shall be removed by hand before seeding. Soils contaminated by hazardous substances shall be disposed of in an approved Department of Water Affairs and Forestry waste disposal site.

6.4.2 Borrow material

The Contractor's attention is drawn to the requirements set forth by the Department of Mineral and Energy Affairs in terms of the submission of EMPR's for establishment, operation and rehabilitation of borrow pits and quarries. The cost of complying with the requirements shall be deemed to be included in existing rates in the schedule of quantities. Read with the Specification Section 203.

6.5 Discovery of archaeological sites, artefacts or graves.

6.5.1 Archaeological site

If an artefact on site is uncovered, work in the immediate vicinity must 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 must be contacted who will appoint and archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. Read with General Conditions of Contract.

6.5.2 Graves

If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker as well as the National Monuments Council should be contacted. The undertaker will place advertisements in the newspapers concerning the grave. He will also provide for the relocation of bones, should it be necessary. Read with General Conditions of Contract.

6.6 Stockpiled material

The Contractor shall so plan his activities that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct 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 must be indicated and demarcated on the site plan and approved in writing by the Engineer.

The area chosen shall be devoid of indigenous trees and shrubs. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. After the stockpiled material has been removed, the site shall be reinstated as closely as possible to its original condition. All areas affected by stockpiling shall be landscaped, top soiled and grassed to the Engineer's approval and at the Contractor's cost.

Material milled out of the existing road surface that is temporarily stockpiled within the road reserve shall:

- be stockpiled so as to be as inconspicuous as possible;
- be prevented from contaminating water courses; and
- be cleared of weeds.

In all cases, the areas for stockpiling and disposal of construction rubble shall be approved by the Engineer before such operation commences.

Read with Series 2: Earthworks – Section 203.

6.7 Fuel, diesel and other hazardous materials

6.7.1 Hazardous materials

All hazardous materials i.e., bitumen binders shall be stored in an appointed area that is fenced and has restricted entry. Storage of bituminous products shall only take place using suitable containers to the approval of the Engineer.

Under no circumstances shall the spoiling of bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected bituminous products shall be taken to the supplier's production plant. No spillage of bituminous products

shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the Engineer.

6.7.2 Fuel

Should any fuel storage tank be required on site, the Contractor shall ensure that he has complied with the necessary legal requirements for the erection of such tanks. Leakage must be avoided. The fuel and diesel areas should be bonded to accommodate any spillage or overflow from these activities.

6.7.3 Oil, grease

Oil, grease and cleaning materials from the maintenance of vehicles and machinery shall be collected in a sump and sent back to the supplier or otherwise disposed of at a registered site.

6.7.4 Cooking oil

The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.

6.7.5 Spillages

Streams, rivers and dams must 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 bituminous products. In the event of a spillage, prompt action must be taken by competent instances to clear the affected area.

6.8 General considerations

Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a designated register and the response noted with the date and action taken. This record must be submitted with the monthly reports.

Any avoidable non-compliance with the above-mentioned measures may be considered sufficient ground for withholding payment of part or all amounts to be paid for the said item.

7. MEASUREMENT AND PAYMENT

The Contractor shall not be separately reimbursed or compensated in respect of his compliance with the provisions of this part of the Scope of Works. All costs so incurred shall, save and except to the extent provided for the schedule of quantities under SECTION 001: GENERAL REQUIREMENTS AND CHARGES, be deemed to be included in the rates tendered for the various items of work listed in the schedule of quantities.

TABLE 1 SUMMARY OF MITIGATION MEASURES

ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
<i>Establishment of site offices</i>	<i>Positioning of offices</i>	<i>Preferred areas would be flat areas along the route. Avoid steep areas as soil erosion could increase. Avoid water courses</i>	<i>001 002.02.01</i>
	<i>Site Plan</i>	<i>Contractor will provide engineer detail of layout of site facilities within two weeks of moving to the site ie chemical toilets, the demarcation of areas for stockpiling of materials, storage of hazardous materials and the provision of containers. The offices shall be fenced. The site plan will be submitted before the site hand over meeting.</i>	<i>001 002</i>
<i>Site rehabilitation</i>	<i>Cleanup</i>	<i>All construction material is to be removed from the site on completion of the contract.</i>	<i>001 002 104</i>
<i>Vegetation</i>	<i>On site</i>	<i>Vegetation planted on the site should be indigenous. Only trees directly affected by works as indicated in writing by Engineer, shall be sawn off/removed</i>	<i>104</i>
	<i>Weeds</i>	<i>Clearance of weeds must be done by hand before seeding.</i>	<i>104</i>
	<i>Grass cover</i>	<i>The grass cover surrounding the construction site is to be left as intact as possible or restored to its original condition.</i>	<i>104</i>
<i>Water</i>	<i>Available for human consumption</i>	<i>Water for human consumption must be tested and treated in accordance with recommendations.</i>	
<i>Soil management</i>	<i>Topsoil</i>	<i>The topsoil (\pm 300 mm) of any excavation shall be removed and stockpiled separately from underlying material in an appointed area</i>	<i>203 104</i>

ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	<i>Borrow material</i>	<i>EMPR's for borrow pits to be submitted to the Department of Mineral and Energy Affairs for approval</i>	201 203
<i>Archaeological & Cultural sites</i>	<i>Discover of archaeological sites of artefacts</i>	<i>If an artefact on site is uncovered, work in the immediate vicinity must be stopped immediately and an archaeological consultant must be contacted. Work may only resume once clearance is given in writing by the archaeologist.</i>	GCC
<i>Graves</i>	<i>Discovery of graves</i>	<i>If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker should be contacted</i>	GCC
<i>Waste management</i>	<i>Solid & Construction waste</i>	<i>Solid waste is to be stored in an appointment area for collection and disposal. Disposal of waste will be in a DWAF licensed landfill, and no waste may be burnt on site.</i>	
	<i>Litter</i>	<i>The site is to be kept free of litter</i>	001
<i>Sewage treatment</i>	<i>Toilet facilities</i>	<i>Adequate toilet facilities are to be provided, and the positioning of chemical toilets is to be done in consultation with the site engineer. Use of the veld for this purpose shall not be allowed.</i>	001 002
<i>Fuel, diesel & hazardous materials</i>	<i>Hazardous Materials</i>	<i>All hazardous materials ie bitumen binders will be stored in an appointed area that is fenced and has restricted entry. No spoiling of bituminous products on site, over embankments, in borrow pits or any burning. No spillage of bituminous products shall be allowed on site.</i>	
	<i>Fuels</i>	<i>All fuel tanks will be stored in an appointed area. Leakage will be avoided.</i>	

ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	<i>Cooking fuel</i>	<i>The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.</i>	
	<i>Oil, grease</i>	<i>Oil, grease and cleaning materials from maintenance of vehicles shall be collected in a sump and sent back to supplier.</i>	
	<i>Spillages</i>	<i>Streams, rivers or dams must be protected against spillages of pollutants mentioned in 6.7 (e). In the event of a spillage, prompt action must be taken to clear the affected area.</i>	
<i>General considerations</i>	<i>Lines of authority</i>	<i>A nominated representative of the contractor will be the designated environmental officer for the site.</i>	RELEVANT SECTION IN SPECIFICATIONS
	Reports	The environmental officer will submit monthly reports to the Engineer who will verify the information	
	Complaints	Complaints received regarding activities on the construction site pertaining to the environment should be recorded in a designated register, and the response noted with the date and action taken. This record must be submitted with the monthly report	