



REQUEST FOR TENDER

GENERAL INFORMATION			
N.B. NO TENDER DOCUMENTS TRANSMITTED PER FAX WILL BE ADMISSIBLE			
Tender Advertised	22 June 2026		
Estimated CIDB Grading	Tenderers should have a CIDB Contractor Grading Designation as follows: 2CE or HIGHER		
Clarification Meeting	A compulsory clarification meeting with representatives of the Employer will take place at Midvaal Engineering Services, 56 Rooibok Street, Highbury, Randvaal Coordinates: -26.5147°S 28.0441°E (Front opposite Randvaal Clinic) on 08 July 2026 starting at 10h00.		
Closing Date	23 July 2026		
Closing Time	10H00		
Closing Venue	Ground floor Tender Box at Block A, Midvaal Municipality Offices, No. 25 Mitchell Street, Meyerton, 1860		
Late tenders	Tender documents received after the closing time and date will be late and will not be accepted under any circumstances.		
8/2/2/465 (2026-2029) – BID TO APPOINT A PANEL OF SERVICE PROVIDERS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIRS WITHIN MIDVAAL LOCAL MUNICIPALITY ON AN AS-AND-WHEN-REQUIRED BASIS FROM 1 JULY 2026 UNTIL 30 JUNE 2029			
CLOSING DATE: 23 July 2026 at 10H00			
Name of tenderer:		CIDB CRS Number	
Contact person:		CIDB Grading	
Telephone no:		Fax no:	
Cellular telephone no:		Email address:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4



**CONTRACT 8/2/2/465 (2026-2029) BID TO
APPOINT A PANEL OF SERVICE PROVIDERS
FOR THE REPAIRS AND MAINTENANCE OF
RESERVOIR WITH IN MIDVAAL LOCAL
MUNICIPALITY ON AS AND WHEN REQUIRED
BASIS FROM 1 JULY 2026 TO 30 June 2029**

LOCAL MUNICIPALITY

VOLUME 1

TENDER AND CONTRACT

Employer:		Contractor:	
Witness:		Witness:	

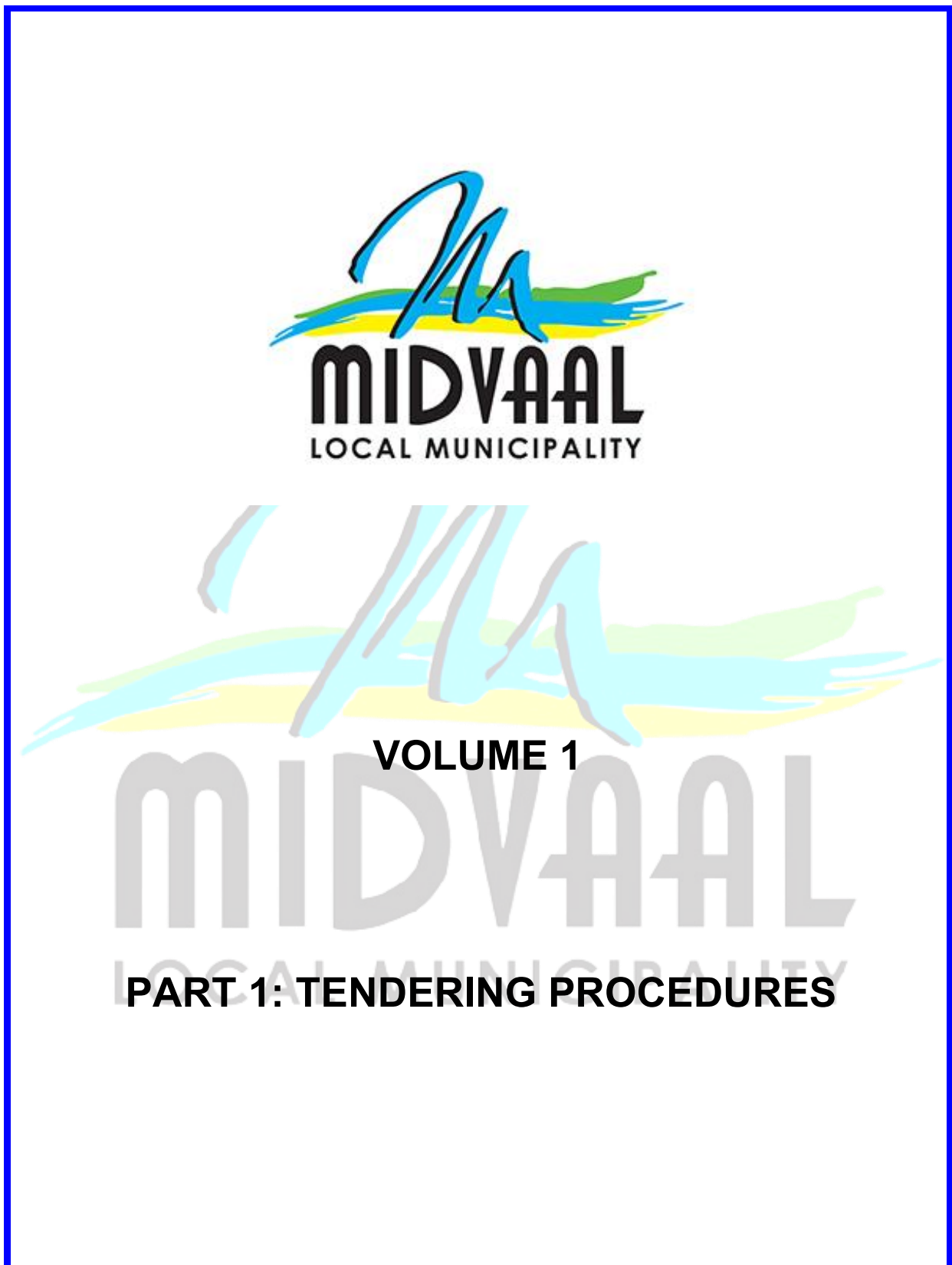
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Tendering Procedures**CONTENTS:**

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Witness:		Witness:	

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Employer:		Contractor:	
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T1.1 TENDER NOTICE AND INVITATION TO TENDER

The Midvaal Local Municipality invites tenders for Contract No.:

Bid 8/2/2/465 (2026-2029) (2CE or HIGHER) BID TO APPOINT A PANEL OF SERVICE PROVIDERS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIRS WITHIN MIDVAAL LOCAL MUNICIPALITY ON AN AS-AND-WHEN-REQUIRED BASIS FROM 1 JULY 2026 UNTIL 30 JUNE 2029

Employer Tender Number: 8/2/2/465 (2026-2029) (2CE or HIGHER)
CIDB Reference Number: 100118156

MIDVAAL LOCAL MUNICIPALITY INVITES TENDERS FOR BID TO APPOINT A PANEL OF CONTRACTORS FOR THE REFURBISHMENT, REPAIRS AND MAINTENANCE OF RESERVOIRS WITHIN MIDVAAL LOCAL MUNICIPALITY ON AN AS AND WHEN REQUIRED BASIS FROM DATE OF APPOINTMENT UNTIL 30 JUNE 2029

It is estimated that tenderers should have a cidb contractor grading of 2CE or higher.

Preferences are offered to tenderers who suitable experience and suitably qualified employees and resources to render the services. The council reserves the right to accept any bid of part thereof and does not bind itself to accept the lowest or any bid and not to consider any bid not suitably endorsed or comprehensively competed.

SPECIFIC GOALS & POINTS:

Locality: 10 Points

B-BBEE: 10 Points

Bids will be evaluated and adjudicated according to the following criteria:

- relevant specifications and technical proposals,
- value for money,
- capability to execute the contract,
- Midvaal SCM policy, PPPFA, PPPFA regulations and any other relevant legislation's,
- As well as any supporting documents where required and local content (if applicable)
- Details of the specific goals' allocation are demonstrated in the bid document

Only tenderers who have read and signed the provisions of the rules and specifications which are included in the bid documents are eligible to submit tenders. are eligible to submit tenders.

A non-refundable tender deposit of R668.50 payable by proof of deposit is required on collection of the Tender documents.

These prices are applicable to formal bids only, and purchases are to be made at the rates and taxes hall during office hours Monday

Friday, 07:30 – 15:00 or alternatively direct deposits (no cheques accepted) to:

Midvaal Local Municipality,

Bank: Nedbank,

Employer:		Contractor:	
Witness:		Witness:	

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Account Number: 1224797469,

Branch: Public Sector -Central Gauteng

NB: Please use the bid/tender number as reference and remember to bring proof of payment for collection of bid documents.

Alternatively, bidding documents may be requested via tenders@midvaal.gov.za. The bidding document will be sent to the requesting bidder free of charge.

The bid document will also be made available for download on the National Treasury e-Tenders portal (etenders.gov.za). Bidders using this option are hereby advised to monitor the portal regularly for updates and uploaded addendum documents during the time the bid is advertised. It is the responsibility of the bidder to ensure that they are up to date with all issued documents

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

SCM

Tel No. 0163607609

E-mail. tenders@midvaal.gov.za

Or

ENGINEERING SERVICES

Tel No. 0104962974

E-mail. tenders@midvaal.gov.za

A compulsory clarification meeting with representatives of the Employer will take place at Midvaal Engineering Services, 56 Rooibok

Street, Highbury, Randvaal Coordinates: -26.5147°S 28.0441°E (Front opposite Randvaal Clinic) on 08 July 2026 starting at 10h00.

The closing time for receipt of Tenders is 10h00 on Thursday, July 23, 2026.

Late Tenders will not be accepted.

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

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

Employer:		Contractor:	
Witness:		Witness:	

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Tendering Procedures

PART A**INVITATION TO BID****MBD 1**

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF MIDVAAL LOCAL MUNICIPALITY					
BID NUMBER:	8/2/2/465 (2026-2029)	CLOSING DATE:	23 July 2026	CLOSING TIME:	10H00
DESCRIPTION	BID TO APPOINT A PANEL OF SERVICE PROVIDERS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIRS WITHIN MIDVAAL LOCAL MUNICIPALITY ON AN AS-AND-WHEN-REQUIRED BASIS FROM 1 JULY 2026 UNTIL 30 JUNE 2029				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX
SITUATED AT (STREET ADDRESS)

25 MITCHELL STREET					
MEYERTON					
1961					
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ YES ☐ NO	B-BBEE STATUS LEVEL SWORN AFFIDAVIT		☐ YES ☐ NO	
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ YES ☐ NO [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?		☐ YES ☐ NO [IF YES ENCLOSE PROOF B:3]	
TOTAL NUMBER OF ITEMS OFFERED	TOTAL BID PRICE		R		
SIGNATURE OF BIDDER	DATE				
CAPACITY UNDER WHICH THIS BID IS SIGNED					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:			TECHNICAL INFORMATION MAY BE DIRECTED TO:		
DEPARTMENT	SUPPLY CHAIN MANAGEMENT	CONTACT PERSON	ENGINEERING SERVICES		
CONTACT PERSON	FINANCE: SCM OFFICE	TELEPHONE NUMBER	016 360 5812		
TELEPHONE NUMBER	016 360 7481	FACSIMILE NUMBER	N/A		
FACSIMILE NUMBER	N/A	E-MAIL ADDRESS	tenders@midvaal.gov.za		
E-MAIL ADDRESS	tenders@midvaal.gov.za				

Employer:		Contractor:	
Witness:		Witness:	

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PART B: TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED—(NOT TO BE RE-TYPED) OR ONLINE
- 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

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

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

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

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

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

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

Employer:		Contractor:	
Witness:		Witness:	

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T1.2 TENDER DATA

T1.2.1 CONDITIONS OF TENDER

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (January 2009) as published in Government Gazette No 38960, Board Notice 136 of 2015 of 10 July 2015. (See www.cidb.org.za).

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

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



Employer:		Contractor:	
Witness:		Witness:	

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Tendering Procedures

T1.2.2 TENDER DATA

The clause numbers in the Tender Data refer to the corresponding clause numbers in the Conditions of Tender (see Annex).

The additional Conditions of Tender are:

Clause number	Tender Data
F.1.1	The Employer is, Midvaal Local Municipality
F.1.2	The tender documents issued by the Employer comprise: Volume 1: Tendering Procedures T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data Returnable Documents T2.1 List of Returnable Documents Part 1: Agreement and Contract Data C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Forms of Securities Part 2: Pricing Data C2.1 Pricing Instructions Part 3: Scope of Work C3.1 Scope of Work C3.2 Particular Specifications C3.4 Occupational Health, Safety and Environmental Specification and Environmental Management Plan Part 4: Site Information C4 Site Information Volume 2: Drawings
F.1.4	The Employer's agent is: Contact person : Assistant Director: Water Telephone : 010 496 2974 Facsimile : 086 502 0523 E-mail address : tenders@midvaal.gov.za
F1.5.2	Replace the existing clause with the following: The Employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers, re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer or where in his opinion all received tenders are found to be non-responsive.

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
F.2.1.1	Eligibility criteria and requirements. TO ADEQUATELY SUBSTANTIATE ANY ELIGIBILITY CLAIM FOR CRITERIA BELOW THE TENDERER SHALL SUBMIT INFORMATION OR COMPLETE RETURNABLE SCHEDULES: CIDB registration and grading: 1) Only tenderers who are registered with the CIDB or have a sub-contractor registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined as follows: 2CE or HIGHER Certificate of Registration with CIDB to be submitted. 2) Joint ventures are eligible to submit tenders provided that: - every member of the joint venture is registered with the CIDB. - the lead partner has a contractor grading designation in the applicable class of construction work; and - the combined contractor grading designation calculated in accordance with the CIDB Regulations is equal to or higher than a contractor grading designation as indicated above. Certificates of Registration with CIDB to be submitted.
F.2.13.5	The Employer's address for delivery of tender offers and identification details to be shown on the Tenderer's offer package are: Location of tender box: Ground Floor Tender Box Physical address: Block A, Midvaal Municipality Offices, No. 25 Mitchell Street, Meyerton, 1860 Identification details: Tender reference number, Title of Tender and the closing date and time of the tender, <i>as well as the Tenderer's name, his Authorised Representative's name, postal address and telephonic contact numbers.</i>
F.2.13.6 & F.3.5	A two-envelope procedure will not be followed.
F.2.15.1	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is 90 days .
F.2.23	The Tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Guarantee
F.2.23	The Tenderer is required to submit with his tender: 1) Valid SARS Compliance status Pin for Tenders issued by the South African Revenue Services.

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
	2) Proof of CSD registration 3) Current Water and Lights / Rates and Taxes statement that is in the name of the business obtainable from the local or metropolitan municipality In the event that the business is leasing, attach the full lease agreement to the bid document (see page 98). 4) Curriculum Vitae of all key staff. 5) Certificates of Contractor Registration issued by the CIDB 6) A Certified copy of Unemployment Insurance Certificate, Act 4 of 2002. 7) where the tendered amount inclusive of VAT exceeds R 10 million: - audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing; - a certificate certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days; - particulars of any contracts awarded to the tenderer by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract; - a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment is expected to be transferred out of the Republic. Where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.
F.2.27	Add the following new clause: Tax Compliance In the case of a Joint Venture/Consortium the tax Compliance Status Pin must be submitted for each member of the Joint Venture/Consortium."
F.3.1.1	Replace the contents of the clause with the following: "Respond to a request for clarification received up to seven calendar days before the tender closing time stated in the tender data and notify all Tenderers who drew procurement documents"
F.3.4.2	Tenders will be opened in public soon after closing time and recording of received documents but not later than 10:15 at Midvaal Local Municipality Civic Centre, No. 25 Mitchell Street, Meyerton

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
F.3.11.1	The procedure for the evaluation of responsive tenders is: 1. MINIMUM REQUIREMENTS 1.1 Company Experience: Bidders must have successfully completed a minimum of three (3) reservoir maintenance or repair projects from 2016 to date. The projects must have been undertaken on reservoirs Bidders must submit a minimum of three (3) reference letters demonstrating satisfactory experience in the successful completion of reservoir maintenance or repair projects from 2016 to date. Each reference letter must be issued by a different referee/client and must be fully completed, signed, dated and stamped with the official stamp of the referee issuing the reference. Or Bidders must submit a minimum of three (3) signed and dated appointment letters, together with the corresponding completion certificates, issued on the official letterhead of the referee/client. The documents must relate to reservoir maintenance or repair projects completed from 2016 to date. The completion certificates or reference letters must clearly indicate the project value, date of completion and scope of work. Failure to comply will result in the bid not being evaluated further. It is the responsibility of bidders to ensure that the submitted reference letters, appointment letters and completion certificates are contactable and verifiable. The municipality may verify the submitted information at any time. Should the submitted information not be verifiable, it will be disregarded, and the bidder shall have no claim against the municipality. 1.2 Key Personnel (Attach CV and Qualification) Bidders must provide CVs and proof of qualifications for each key personnel involved in reservoir maintenance or repair projects. • Contract Manager – A minimum of three (3) years' project experience in reservoir maintenance or repair projects is required. The candidate must hold a minimum NQF Level 6 qualification in Civil Engineering.

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
	• Foreman – A minimum of five (5) years' project experience in reservoir maintenance or repair projects is required. The candidate must hold a minimum NQF Level 5 qualification in Civil Engineering. • Artisan – A minimum of 2 (2) years' project experience in reservoir maintenance or repair projects is required. The candidate must hold any one of the following qualifications: • Millwright Red Seal • Electrical Artisan Red Seal • Mechanical Artisan Red Seal • Occupational Health and Safety Officer (OHS) – Minimum have three (3) years or more experience in Safety within construction projects. This to be clearly outlined in the CV and linked into related experience in construction projects. Furthermore, the OHS is to be registered with SACPCMP (either as a PrCHSO or PrCHSA) and an NQF 5 in Occupational Health and Safety Management. Failure to comply will result in the bid not being evaluated further. 1.3 Plant and Equipment Bidders must submit proof of ownership or a valid lease/rental agreement for the required plant and equipment. For owned vehicles, attach vehicle registration documents. For leased/rented vehicles, attach the lease/rental agreement and vehicle registration documents in the name of the lessor. For equipment without registration documents, attach a confirmation letter on the company letterhead. Required Plant and Equipment: Minimum of one each • One-ton LDV • Three-ton truck • Eight-ton crane truck • Water pump • 55 kW generator

Employer:		Contractor:	
Witness:		Witness:	

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Clause number	Tender Data
F.3.13	Tender offers will only be accepted if: - the tenderer has in his or her possession an original valid Tax Clearance Certificate or has provided a valid Tax Pin Code issued by the South African Revenue Services or has decided to meet outstanding tax obligations. - the tenderer is registered with the CIDB with an appropriate category of registration; - 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; - the tenderer has not: - abused the Employer's Supply Chain Management System; or - failed to pay municipal rates and taxes or service charges and such rates, taxes and charges are in arrears for more than three months; - failed to perform on any previous contract and has been given a written notice to this effect; - 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.
F.3.18	The number of paper copies of the signed contract to be provided by the Employer is one.
	Additions
F3.20.2	Invalid Tenders Tenders shall be considered invalid and shall be endorsed and recorded as such in the tender opening record, by the responsible official who opened the tender, in the following circumstances: - if the tender offer is not submitted on the Form of Offer and Acceptance bound into this tender document (form C1.1 Form of Offer and Acceptance); - if the tender is not completed in non-erasable ink; - if the offer has not been signed; - if the offer is signed, but the name of the tenderer is not stated or is indecipherable. - if the tenderer has failed to submit supporting documentation for the evaluation of quality.
F3.20.3	Negotiations with Preferred Tenderers The Employer may negotiate the final terms of a contract with tenderers identified through a competitive tendering process as preferred tenderer provided that such negotiation: - does not allow any preferred tenderer a second or unfair opportunity; - is not to the detriment of any other tenderer; and - does not lead to a higher price than the tender as submitted. Minutes of any such negotiations shall be kept for record purposes.
F3.20.4	General Supply Chain Management Conditions Applicable to Tenders The Supply Chain Management Policy is available from Midvaal Local Municipality's website.
F3.20.5	UIF The Tenderer shall submit to the Employer a letter from the Department of Labour indicating his/her good standing with regard to UIF payments upon being requested to do so.

Employer:		Contractor:	
Witness:		Witness:	

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T1.2.3 AWARD STRATEGY

The Municipality intends to appoint suitably qualified, experienced and responsive contractors into a panel for the implementation of works within the jurisdiction of Midvaal Local Municipality.

The appointment to the panel will be made to bidders who meet the minimum eligibility requirements, technical evaluation criteria and all applicable procurement requirements. Contractors appointed to the panel will not be guaranteed any specific quantity or value of work. Work will be allocated on an as-and-when required basis, subject to the Municipality's operational needs, availability of budget, and applicable supply chain management processes.

PANEL COMPOSITION

- The panel will consist of service providers who have met the minimum requirements.
- Procurement will be conducted on an as and required basis,
- Request for Quotations (RFQ's) with the terms of reference (TOR) will be sent to bidders on the panel electronically and they will be expected to submit their quotes within the prescribed date and time.
- The submissions will then be evaluated in terms of the requirements of the RFQ Midvaal Local Municipality's SCM Policy and Preferential Procurement Policy, Preferential Procurement Policy Framework Act 5 of 2000 and its 2022 regulations, as well as any other applicable legislation.
- Bidders are cautioned that inclusion on the panel does not guarantee work, and no claims can be made against the municipality,
- The municipality reserves the right to add other service providers to the panel anytime deemed necessary, the addition will be through a competitive tendering process and the contract period will be synchronized to this tender.

Employer:		Contractor:	
Witness:		Witness:	

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ANNEXURE: STANDARD CONDITIONS OF TENDER

As published in Annexure F of the CIDB Standard for Uniformity for construction Procurement, Board Notice 136 Government Gazette No 38960 of 10 July 2015

F.1 General

F.1.1 Actions

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

F.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.

F.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.

F.1.2 Tender Documents

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

F.1.3 Interpretation

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

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

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

- a) **conflict of interest** means any situation in which:
- someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - 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

Employer:		Contractor:	
Witness:		Witness:	

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- 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;
- e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body;
- f) **functionality** means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

F.1.4 Communication and employer's agent

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be 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.

F.1.5 Cancellation and Re-Invitation of Tenders

F1.5.1 An organ of state may, prior to the award of the tender, cancel a 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; or
- (c) no acceptable tenders are received.

F1.5.2 The decision to cancel a tender must be published on the cidb as well as on the etender Portal in which the original tender invitation was advertised.

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.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.

F.1.6.2 Competitive negotiation procedure

F.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 F.3.4, the employer shall announce only the names of the tenderers

Employer:		Contractor:	
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who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

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

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to make a fresh 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.

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

F.1.6.3 Proposal procedure using the two stage-system

F.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.

F.1.6.3.2 Option 2

F.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.

F.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.

F.2 Tenderer's obligations

F.2.1 Eligibility

F.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.

F.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.

F.2.2 Cost of tendering

F.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.

Employer:		Contractor:	
Witness:		Witness:	

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F2.2.2 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.

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting:

N/A

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the tender offer

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

F2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

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

Employer:		Contractor:	
Witness:		Witness:	

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

F.2.11 Alterations to documents

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.

F.2.12 Alternative tender offers

F.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.

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

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

F.2.13 Submitting a tender offer

F.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.

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

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

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

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

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

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

Employer:		Contractor:	
Witness:		Witness:	

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Part	TI	T2	C1	C2	C3	C4

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

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

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

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

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

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

F.2.16 Tender offer validity

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

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

F.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.

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

F.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

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

F.2.18 Provide other material

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

Employer:		Contractor:	
Witness:		Witness:	

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

F.2.19 Inspections, tests and analysis

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

F.2.20 Submit securities, bonds 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.

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.1.2 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.

F.3.2 Issue Addenda

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

F.3.3 Return late tender offers

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
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Returnable Documents

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

F.3.4 Opening of tender submissions

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

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened 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.

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

F.3.5 Two-envelope system

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

F.3.5.2 Evaluate 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.

F.3.6 Non-disclosure

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

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

Returnable Documents

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

F.3.8.1 Determine, 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.

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

- 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.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.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.

F3.9.2 The employer must correct the arithmetical errors in the following manner:

- a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
- b) 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.

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
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Returnable Documents

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Price and Preference

In the case of a price and preference:

- 1) Score tender evaluation points for price
- 2) Score points for BBEE contribution
- 3) Add the points scored for price and BBEE.

F.3.11.3 Method 2: Functionality, Price and Preference

In the case of a functionality, price and preference:

- 1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.
- 2) No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.
- 3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system as described the preferential procurement regulations 2022

F.3.11.4 Scoring points functionality

Score each of the criteria and subcriteria for quality in accordance with the provisions of the Tender Data. Only tenderers achieving the minimum score as described will proceed to further evaluation, ie Price and Preference

F3.11.5 Scoring points for Price

All eligible tenders will be allocated points for price as per the point scoring system described in the preferential procurement regulations, 2022 with the lowest priced tender scoring the highest and the remaining tenders scoring lower as determined through the calculation based on the formula provided.

F3.11.6 Scoring points preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Points for Preference points will only be allocated upon submission of a valid and certified BBEE Scorecard

Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.12 Insurance provided by the employer

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

F.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the employer, it does not present any 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

Employer:		Contractor:	
Witness:		Witness:	

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- 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.

F.3.14 Prepare contract documents

F.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.

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

F.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.

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.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.

F.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.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

Returnable Documents**F3.19 Transparency in the procurement process**

F3.19.1 The CIDB prescripts require that tenders must be advertised and be registered on the CIDB Tender system.

F3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

F3.19.4 The client must publish the information on a quarterly basis which contains the following information:

- Procurement planning process
- Procurement method and evaluation process
- Contract type
- Contract status
- Number of firms tendering
- Cost estimate
- Contract title
- Contract firm(s)
- Contract price
- Contract scope of work
- Contract start date and duration
- Contract evaluation reports

F3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F3.19.6 Consultative Forum must be an independent structure from the bid committees.

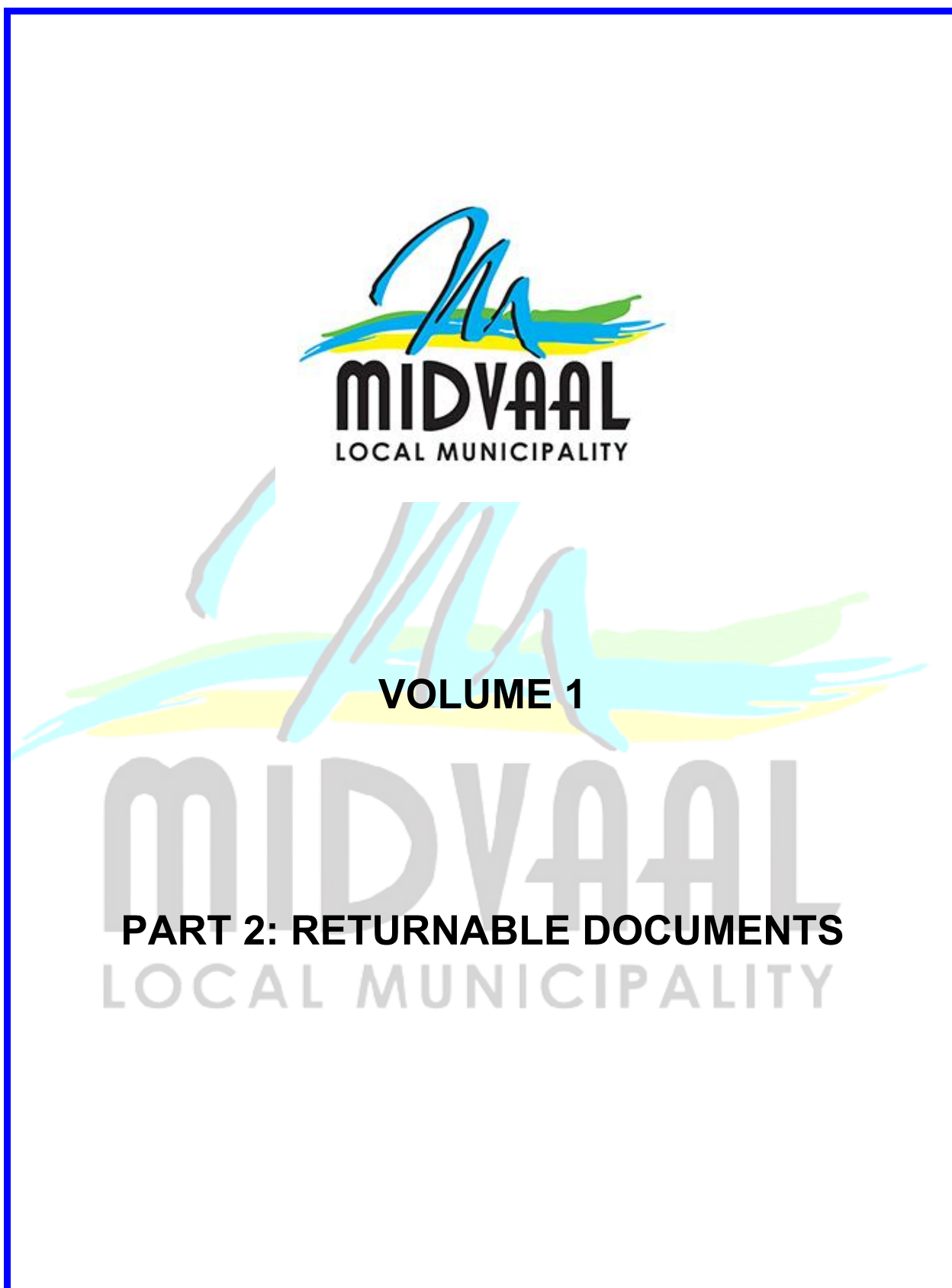
F3.19.7 The information must be published on the employer's website.

F 3.19.8 Records of such disclosed information must be retained for audit purposes.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

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Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
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T1.3 LIST OF RETURNABLE DOCUMENTS

The tenderer must complete the following returnable documents:

T1.3.1 Documents incorporated in this tender document that must be completed and signed by all tenders

T2.1.1	Authority to Sign Documents
T2.1.2	Letter of Good Standing with Workmen's Compensation Commissioner
T2.1.3	Clarification Meeting Certificate
T2.1.4	Certificate of Authority for Joint Ventures (only if Tenderer is a JV)
T2.1.5	Schedule of Work Experience of Tenderer
T2.1.6	Current and Recent Projects for Midvaal Local Municipality
T2.1.7	Schedule of Subcontractors
T2.1.8	Details of Experience and CV's Of Key Personal
T2.1.9	Compulsory Enterprise Questionnaire
T2.1.10	Alterations / Amendments / Qualifications by Tenderer
T2.1.11	Adjudication of Tenders on Points Basis
T2.1.12	Plant and Equipment
T2.1.13	Record of Addenda to Tender Documents
T2.1.14	Size of Enterprise and Current Workload
T2.1.15	Staffing Profile
T2.1.16	Proposed Key Personnel
T2.1.17	Financial Ability to Execute the Project
T2.1.18	Joint Venture Disclosure Form
T2.1.19	Schedule of Proposed Subcontractors Equity
T2.1.20	Declaration of Interest (MBD 4) or Sworn Affidavit
T2.1.21	Declaration of Tenderer's Past Supply Chain Management Practices (MBD 8)
T2.1.22	Certificate of Independent Tender Determination (MBD 9)
T2.1.23	Form Concerning Fulfilment of The Construction Regulations
T2.1.24	General Information (Procurement)
T2.1.25	Specific Goals
T2.1.26	Declaration Certificate for Local Production and Content Designated Sectors (MBD 6.2)
T2.1.27	Preference Points Claim Form in Terms of The Preferential Procurement Regulations 2022 (MBD 6.1)
T2.1.28	Tenderers Financial Standing
T2.1.29	CIDB Contractor Registration Certificate
T2.1.30	Performance Management System

T1.3.2 Other documents that will be incorporated into the contract

C1.1	Form of Offer and Acceptance		
C1.2	Contract Data		
C1.3	Performance Guarantee		
C1.3	Occupational Health and Safety Agreement		
Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

C2.1	Pricing Data
C3	Scope of Work
C4	Site Information

NB: TENDERERS MUST COMPLETE THESE DOCUMENTS / DATA SHEETS / FORMS IN BLACK NON-ERASABLE INK



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1 RETURNABLE SCHEDULES

T 2.1.1 Authority to Sign Document

I/We*, the undersigned, am/are* duly authorised to sign the form of tender on behalf of

by virtue of the Articles of Association/Resolution of the Board of Directors*, of which a certified copy is attached, or

*Delete whichever is inapplicable

1.

--

--

--

NAME SIGNATURE DATE

2.

--

--

--

NAME SIGNATURE DATE

WITNESSES:

1.

--

--

--

NAME SIGNATURE DATE

2.

--

--

--

NAME SIGNATURE DATE

Employer:		Contractor:	
Witness:		Witness:	

Volume	<i>1</i>	2				
Part	T1	<i>T2</i>	C1	C2	C3	C4

Returnable Documents

T 2.1.2 Letter of Good Standing with Workmen’s Compensation Commissioner



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T 2.1.3 Clarification Meeting Certificate N/A

This is to certify that I/We*

of (tenderer)

of (address)

Telephone number

Fax number

Email

on (date)

have examined the Site of the Works and its surroundings for which I/we* am/are* submitting this Tender and have, so far as is practicable, familiarised myself/ourselves* with all information, risks, contingencies and other circumstances which may influence or affect my/our* tender.

*Delete whichever is inapplicable

SIGNED BY/ON BEHALF OF TENDERER:

NAME

SIGNATURE

DATE

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents**T 2.1.4 Certificate of Authority for Joint Ventures**

This Returnable Schedule is to be completed only if Tenderer is a joint venture.

We, the undersigned, are submitting this tender offer in joint venture and hereby authorise

Mr/Ms, authorised signatory of the company, close corporation or partnership..... acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature : Name : Designation :
		Signature : Name : Designation :
		Signature : Name : Designation :
		Signature : Name : Designation :

Note:

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

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T 2.1.5 Schedule of Work Experience of Tenderer

Tenderers shall insert in the Schedule hereunder details of work successfully carried out by them of a similar nature to that for which their tender is submitted. Failure to complete this Schedule will be taken to indicate that the Tenderer has no experience in this class of work.



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T 2.1.5.1 Reservoir Repairs or Maintenance or Repair

Experience				
Employer (Name, Tel, Fax, Email)	Consulting Engineer (Name, Tel, Fax, Email)	Nature of Work	Value of Work R(M)	Date Completed
Name:				
Tel:				
Fax:				
Email:				
Name:				
Tel:				
Fax:				
Email:				
Name:				
Tel:				
Fax:				
Email:				
Name:				
Tel:				
Fax:				
Email:				
Name:				
Tel:				
Fax:				
Email:				

If there is insufficient space above, the tenderer may append additional sheets.

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

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T 2.1.5.2 Reference Letters

Tenderer to include a minimum of 3 or more Letters of Recommendation from previously completed projects.

Letters shall be completed on the applicable reference letterheads. It should be noted that project experience must be on Reservoir Repairs or Maintenance or Repair.



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T 2.1.5.3 Reference Letters: – Reservoir Repairs or Maintenance or Repair



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.6 Current and Recent Projects for Midvaal Local Municipality

Tenderers must furnish hereunder details of similar works/service, which they have satisfactorily completed in the past. The information shall include a description of the Works, the Contract value and name of Employer.

CURRENT PROJECTS			
PROJECT NAME	AWARDED AMOUNT	CONTRACT START DATE	ANTICIPATED / ACTUAL COMPLETION DATE
TOTAL AMOUNT OF PROJECTS CURRENTLY UNDERTAKEN FOR MIDVAAL LOCAL MUNICIPALITY			R

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.7 Schedule of Subcontractors

We notify you that it is our intention to employ the following Subcontractors for work in this contract.

SUBCONTRACTORS			
Category/type	Subcontractor Name/Address/Contact Person/Phone/Fax/Details of Organization/Firm/ Experience	Items of work (pay items) to be undertaken by the Subcontractor	Estimated Cost of Work (Rand)
TOTAL (Excluding VAT)			

If there is insufficient space above, the tenderer may append additional sheets.

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

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

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T1.3.3 Details of Experience and CV's of Key Personnel

Tenderers shall set out in the Schedule hereunder details of the experience of the relevant personnel in work of a similar nature to that for which this Tender is submitted. Tender to provide copies of relevant qualifications.

Failure to complete this Schedule may result in the Tender not being considered.

T1.3.3.1 Key Personnel: – Reservoir Maintenance and Repair

CONTRACTS MANAGER				
Name		Qualification		
Contract and Client	Nature of Work	Position Held	Value of Work	Year Completed

Minimum requirements: Contract Manager – with 3 years of project experience in Reservoir Repairs or Maintenance or Repair projects and a minimum of NQF level 6 in Civil Engineering

FOREMAN				
Name		Qualification		
Contract and Client	Nature of Work	Position Held	Value of Work	Year Completed

Minimum requirements: Site Foreman with minimum five (5) years' experience in Reservoir Repairs or Maintenance or Repair projects and minimum of NQF level 5 in Civil Engineering

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

ARTISAN: MILLWRIGHT, ELECTRICAL OR MECHANICAL				
Name		Qualification:		
Contract and Client	Nature of Work	Position Held	Value of Work	Year Completed

Minimum requirements: Millwright, Electrical or Mechanical artisan with a certified “red seal” with minimum two (2) years’ experience in Reservoir Repairs or Maintenance or Repair projects

HEALTH AND SAFETY OFFICER				
Name		Qualification		
Contract and Client	Nature of Work	Position Held	Value of Work	Year Completed

Minimum requirements: Occupational Health and Safety Officer with minimum three (3) years’ experience in Occupational Health and Safety within construction projects, registration with SACPCMP as either PrCHSO or PrCHSA, and minimum of NQF Level 5 in Occupational Health and Safety Management.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.9 Compulsory Enterprise Questionnaire

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

Section 1: Name of enterprise

Address of enterprise

Section 2: VAT registration number, if any

Section 3: CIDB registration number, if any

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

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

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

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

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

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

*insert separate page if necessary

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

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

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

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

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

*insert separate page if necessary

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

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

- i) authorises the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that neither the name of the enterprise nor the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

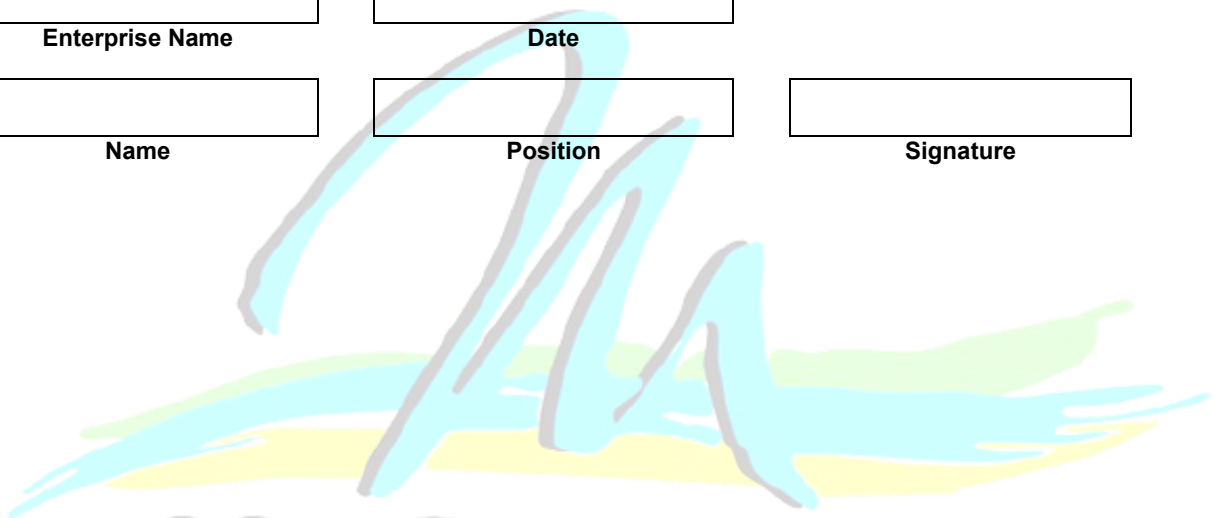
SIGNED:

Enterprise Name

Date

Name

Position

Signature

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents**T2.1.10 Alterations / Amendments / Qualifications by Tenderer**

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

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

No alternative Tender will be considered unless a Tender free of qualifications and strictly on the basis of the Tender Documents is also submitted.

PAGE/ITEM	CLAUSE/DESCRIPTION

If there is insufficient space above, the tenderer may append additional sheets.

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

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.11 Adjudication of Tenders on Points Basis

Information provided should be as comprehensive as possible as the Tenderer's approach to this subject will be an important criterion in the tender adjudication process. Failure to provide the information could prejudice a tender.

Responsive tenders will be adjudicated on the following basis (see Amended CIDB Conditions of Tender):

Responsive tenders will be evaluated in terms of the Supply Chain Management policy of the Midvaal Local Municipality. The Tender Committees, Tender Evaluation Committee, Tender Adjudication and Accounting Officer will work on the evaluation of the tender. The lowest tender will not necessarily be accepted and the right to accept the whole or part of any tender or not to consider any tender not suitably endorsed is fully reserved by the Midvaal Local Municipality

The Tender shall be scored on a 80/20 point system where 80 will be for the price and 20 points is in terms of B-BBEE status level of contributor.

The Tender obtaining the highest amount of points will be awarded the Contract unless extenuating circumstances dictate otherwise. Points scored will be rounded off to one decimal place.

In the event of equal points scored, the Tender will be awarded to the Tenderer scoring the highest points for B-BBEE Status.

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS

1. GENERAL CONDITIONS

Preference points for this tender shall be awarded for B-BBEE Status verified by an accredited assessor.

THE POINTS FOR THIS TENDER ARE ALLOCATED AS FOLLOWS:

	BREAKDOWN	WEIGHT
1.	Price	80
2.	Preference	20
	Total	100

The points awarded for Preference are based on the B-BBEE status level of contributor is as follows:

B-BBEE status level of contributor	Number of points
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

The tenderer shall attach a copy of his B-BBEE certificate to this page as proof of his status level.

Failure on the part of a tenderer to fill in and/or to sign this form may be interpreted to mean that preference points are not claimed.

The client 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 client.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.12 Plant and Equipment

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

T1.3.4.1 Plant and Equipment: – Reservoir Maintenance and Repair

MINIMUM EQUIPMENT OR PLANT FOR THIS CONTRACT SHALL BE

- 1(one) ton LDV
- 3(three) ton Truck
- 8(eight) ton Crane Truck
- Water Pump
- Generator (55KW)

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description	Size	Capacity

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my / our tender is acceptable.

Quantity	Description	Size	Capacity

Attach additional pages if more space is required.

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents**T2.1.13 Record of Addenda to tender documents**

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

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

If there is insufficient space above, the tenderer may append additional sheets.

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

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.14 Size of Enterprise and Current Workload

What was your turnover in the previous financial year? R

What is the estimated turnover for your current financial year? R.....

Physical facilities:

Provide information on offices, factories, yards and warehouses occupied by your enterprise (attach details if the space provided is not enough)

Description	Address	Area (m ²)

List your current contracts and obligations:

Description	Value (R)	Start date	Duration	Expected completed date

Do you have the capacity to supply the goods and services described in this tender, should the contract be awarded to you?

Yes

☐

No

☐

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.15 Staffing Profile

Provide information on the staff that you have available to execute this contract (attach a separate list if the space provided is insufficient)

Own staff: gender and race	Number of staff

Staff to be employed for the project: gender and race	Number of staff

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

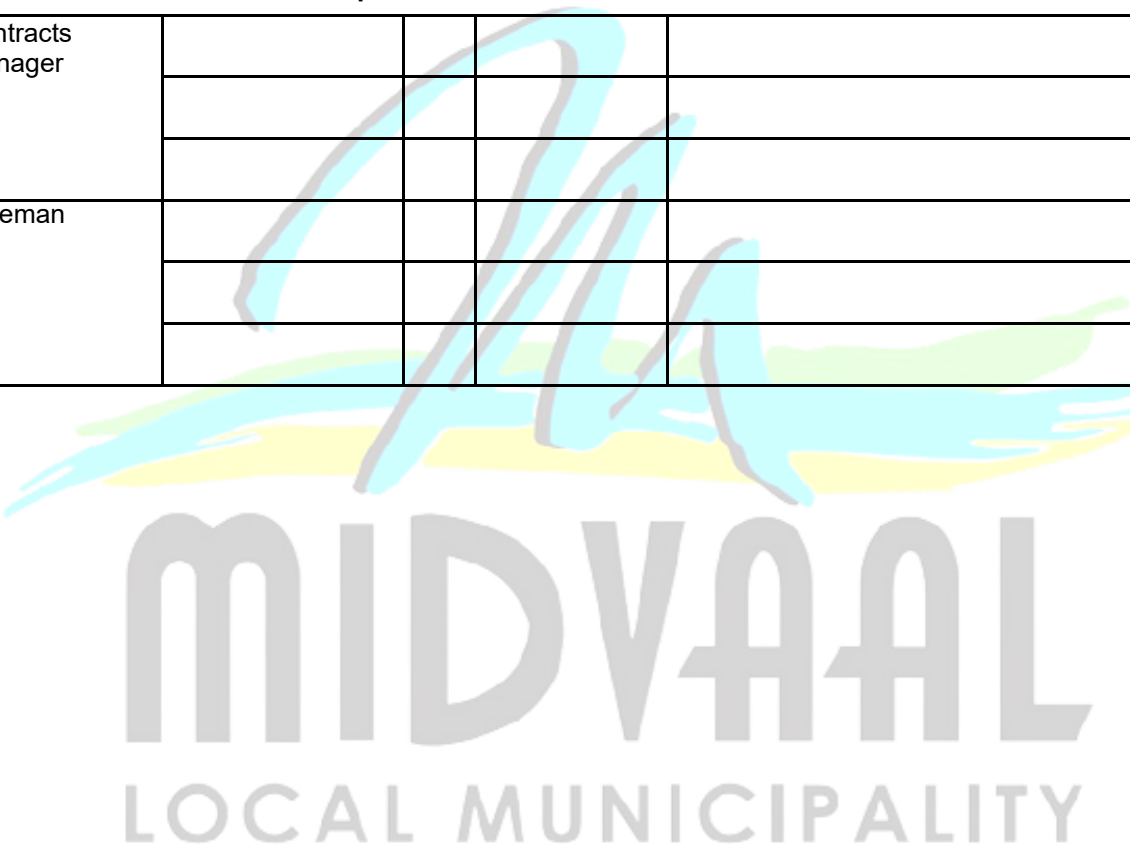
Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.16 Proposed Key Personnel

The Tenderer shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the project should his Tender be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities.

DESIGNATION	NAME OF	NATIONALITY	SUMMARY OF	
	(i) NOMINEE (ii) ALTERNATE		QUALIFICA- TIONS	EXPERIENCE AND PRESENT OCCUPATION
Reservoir Maintenance and Repair				
Contracts Manager				
Foreman				



MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.17 Financial Ability to Execute the Project

Provide details on the surety you will provide if the tender is awarded to you

Which of the following institutions will provide surety?

- Bank registered in terms of the Bank Act 1990 (Act 94 of 1990):
.....
- Insurance Company registered in terms of the Short-Term Insurance Act 1998 (Act 53 of 1998):
.....
- Cash:
- Bank Rating:

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

Month no	Amount (VAT included)			Cumulative cash flow
	a Received	b Payments made	a – b Net cash flow	
1			d	j=d
2			e	j+e=k
3			f	k+f=l
4			g	l+g=m
5			h	m+h=n
6			Etc.	Etc.
7				
8				
9				
10				
Maximum negative cash flow: Take the largest negative number in the last column and write it in here → → → → → →				

Notes:

- Value added tax to be included in all amounts
- Assume payment of certificates within 30 days of approval of certificate

From what sources will you fund the above amount (e.g. Funds internally available, bank overdraft, loan, etc)

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	<u>1</u>	2				
Part	T1	<u>T2</u>	C1	C2	C3	C4

Returnable Documents**T2.1.18 Joint Venture Disclosure Form****GENERAL**

- i) All the information requested must be filled in the spaces provided. If additional space is required, additional sheets may be used and attached to the original documents.
- ii) A copy of the joint venture agreement must be attached to this form, in order to demonstrate the Affirmable, Joint Venture Partner's share in the ownership, control, management responsibilities, risks and profits of the joint venture, the proposed joint venture agreement must include specific details relating to:
 - a. the contributions of capital and equipment
 - b. work items to be performed by the Affirmable Joint Venture Partner's own forces
 - c. work items to be performed under the supervision of the Affirmable Joint Venture Partner.
- iii) Copies of all written agreements between partners concerning the contract must be attached to this form including those, which relate to ownership options and to restrictions/limits regarding ownership and control.
- iv) ABE partners must complete ABE Declaration Affidavits.
- v) The joint venture must be formalised. All pages of the joint venture agreement must be signed by all the parties concerned. A letter/ notice of intention to formalise a joint venture once the contract has been awarded will not be considered.
- vi) Should any of the above not be complied with, the joint venture will be deemed null and void and will be considered non-responsive.

1. JOINT VENTURE PARTICULARS

- a) Name.....
- b) Postal address.....
.....
.....
- c) Physical address.....
.....
.....
- d) Telephone.....
- e) Fax

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

2. IDENTITY OF EACH NON-AFFIRMABLE JOINT VENTURE PARTNER

2.1(a) Name of Firm

Postal Address.....

Physical Address

Telephone

Fax.....

Contact person for matters pertaining to Joint Venture Participation Goal requirements:

.....

2.2(a) Name of Firm

Postal Address.....

Physical Address

Telephone.....

Fax.....

Contact person for matters pertaining to Joint Venture Participation Goal requirements:

.....

(Continue as required for further non-Affirmable Joint Venture Partners)

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

3. IDENTITY OF EACH AFFIRMABLE JOINT VENTURE PARTNER

3.1(a) Name of Firm

Postal Address.....

Physical Address

Telephone

Fax.....

Contact person for matters pertaining to Joint Venture Participation Goal requirements:

.....

3.2(a) Name of Firm

Postal Address.....

Physical Address

Telephone

Fax.....

Contact person for matters pertaining to Joint Venture Participation Goal requirements:

.....

3.3(a) Name of Firm

Postal Address.....

Physical Address

Telephone

Fax.....

Employer:		Contractor:	
Witness:		Witness:	

Volume	<u>1</u>	2				
Part	T1	<u>T2</u>	C1	C2	C3	C4

Returnable Documents

Contact person for matters pertaining to Joint Venture Participation Goal requirements:

4. **BRIEF DESCRIPTION OF THE ROLES OF THE AFFIRMABLE JOINT VENTURE PARTNERS IN THE JOINT VENTURE**

.....

.....

.....

.....

5. **OWNERSHIP OF THE JOINT VENTURE**

a) Affirmable Joint Venture Partner ownership percentage(s)%

b) Non-Affirmable Joint Venture Partner ownership percentage(s)%

c) Affirmable Joint Venture Partner percentages in respect of : *

i) Profit and loss sharing

ii) Initial capital contribution in Rands

(*Brief descriptions and further particulars should be provided to clarify percentages).

iii) Anticipated on-going capital contributions in Rands

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

.....

.....

.....

Employer:		Contractor:	
Witness:		Witness:	

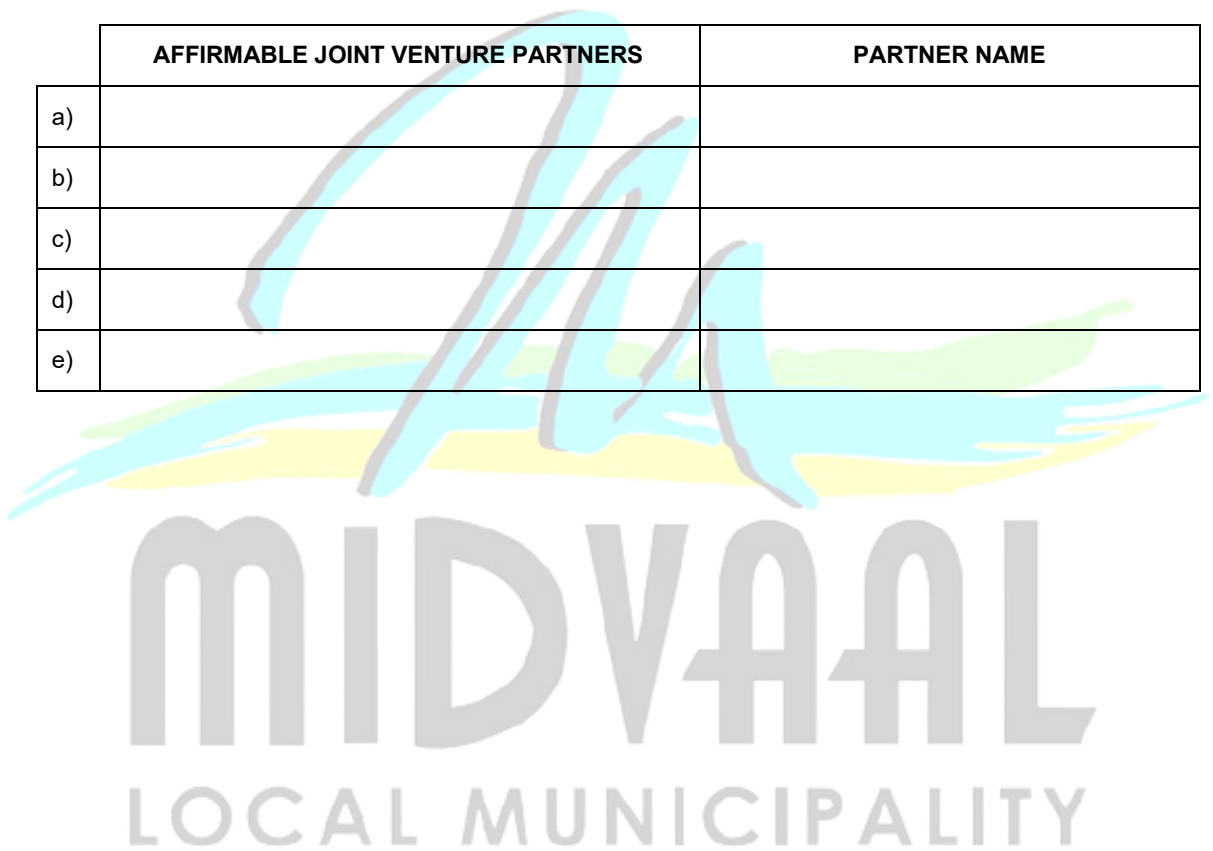
Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

6. **RECENT CONTRACTS EXECUTED BY PARTNERS IN THEIR OWN RIGHT AS PRIME CONTRACTORS OR AS PARTNERS IN OTHER JOINT VENTURES**

	NON-AFFIRMABLE JOINT VENTURE PARTNERS	PARTNER NAME
a)		
b)		
c)		
d)		
e)		

	AFFIRMABLE JOINT VENTURE PARTNERS	PARTNER NAME
a)		
b)		
c)		
d)		
e)		



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents**7. CONTROL AND PARTICIPATION IN THE JOINT VENTURE**

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

- a) Joint Venture cheque signing

.....

.....

.....

- b) Authority to enter into contracts on behalf of the Joint Venture

.....

.....

.....

- c) Signing, co-signing and/or collateralising of loans

.....

.....

.....

- d) Acquisition of lines of credit

.....

.....

.....

- e) Acquisition of performance bonds

.....

.....

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

- f) Negotiating and signing labour agreements

8. MANAGEMENT OF CONTRACT PERFORMANCE

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

- a) Supervision of field operations



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

- b) Major purchasing

.....

- c) Estimating

.....

- d) Technical management

.....

9. MANAGEMENT AND CONTROL OF JOINT VENTURE

- a) Identify the “managing partner”, if any,

.....

- b) What authority does each partner have to commit or obligate the other to financial institutions, insurance companies, suppliers, subcontractors and/or other parties participating in the execution of the contemplated works?

.....

- c) Describe the management structure for the Joint Venture's work under the contract

MANAGEMENT FUNCTION / DESIGNATION	NAME	PARTNER*

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

(Fill in “ex Affirmable Joint Venture Partner” or “ex non-Affirmable Joint Venture Partner”.



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

10. PERSONNEL

- a) State the approximate number of operative personnel (by trade/function/discipline) needed to perform the Joint Venture work under the Contract.

TRADE/FUNCTION/ DISCIPLINE	NUMBER EX AFFIRMABLE JOINT VENTURE PARTNERS	NUMBER EX NON- AFFIRMABLE JOINT VENTURE PARTNERS

(Fill in "ex Affirmable Joint Venture Partner" or "ex non-Affirmable Joint Venture Partner").

- b) Number of operative personnel to be employed on the Contract who are currently in the employ of partners.

- (i) Number currently employed by Affirmable Joint Venture Partners

.....

- (ii) Number currently employed by the Joint Venture

.....

- c) Number of operative personnel who are not currently in the employ of the respective partner and will be engaged on the project by the Joint Venture

.....

- d) Name of individual(s) who will be responsible for hiring Joint Venture employees

.....

.....

- e) Name of partner who will be responsible for the preparation of Joint Venture payrolls

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

.....

.....

11. **CONTROL AND STRUCTURE OF THE JOINT VENTURE**

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

.....

.....

.....

.....



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

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

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

Signature

Duly authorised to sign on behalf of.....

Name

Address

Telephone.....

Date

Signature

Duly authorised to sign on behalf of.....

Name

Address

Telephone.....

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

Date

Signature

Duly authorised to sign on behalf of.....

Name

Address

Telephone.....

Date

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

Signature

Duly authorised to sign on behalf of.....

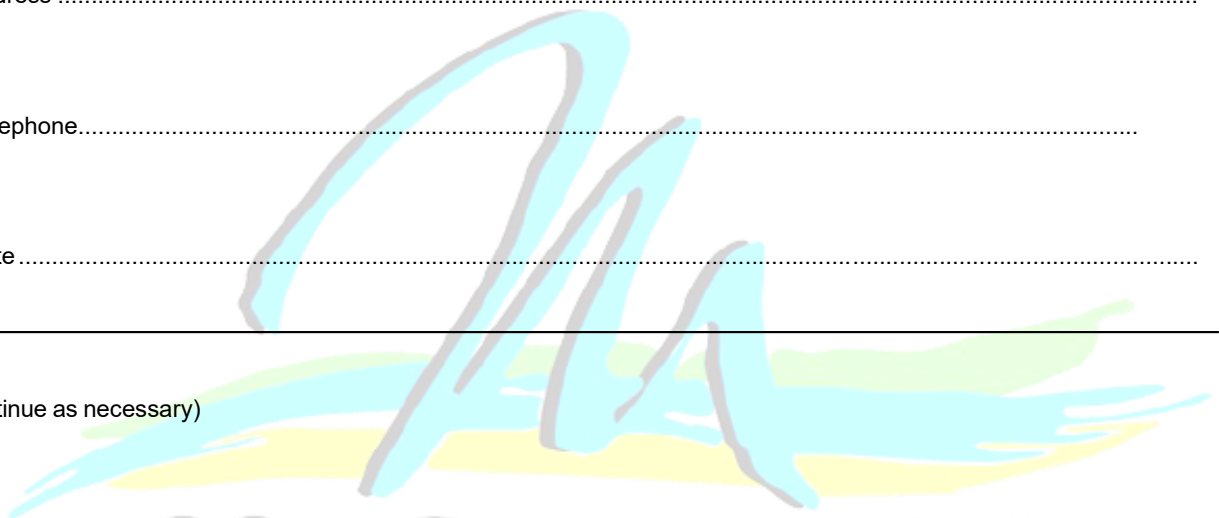
Name

Address

Telephone.....

Date

(Continue as necessary)



MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.19 Schedule of Proposed Subcontractors Equity

Provide details on all sub-contractors you intend utilising for this contract:

Type of work to be used for	a % of contract	Name of sub-contractor	b % HDI owner-ship	Female ownership Yes / No	c=a x b/100 Total contribution to HDI ownership
Total % of contract sub-contracted		Total contribution of HDI ownership			

SIGNED BY/ON BEHALF OF TENDERER:

Name	Signature	Date

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.20 Declaration of Interest (SBD4)

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to tender (includes an advertised competitive tender, a limited tender, a proposal or written price quotation). In view of possible allegations of favouritism, should the resulting tender, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the Tenderer or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-

- the Tenderer is employed by the state; and/or
- the legal person on whose behalf the tendering document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the tender(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the tender.

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

- 2.1. Full Name of Tenderer or his or her representative:
- 2.2. Identity Number:
- 2.3. Position occupied in the Company (director, trustee, shareholder², member):
- 2.4. Registration number of company, enterprise, close corporation, partnership agreement or trust:
- 2.5. Tax Reference Number:
- 2.6. VAT Registration Number:
- 2.6.1. The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / PERSAL numbers must be indicated in paragraph 3 below.

¹"State" means –

- (a) 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);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or
- (e) Parliament.

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

- 2.7. Are you or any person connected with the Tenderer presently employed by the state? **YES / NO**

- 2.7.1. If so, furnish the following particulars:

Name of person / director / trustee / shareholder/ member:

.....

Name of state institution at which you or the person connected to the Tenderer is employed:

.....

. Position occupied in the state institution:

.....

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

Any other particulars:

.....
 .

 .

 .

2.7.2. If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? **YES/NO**

2.7.3. If yes, did you attach proof of such authority to the tender document? **YES/NO**

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the tender.

2.7.3.1. If no, furnish reasons for non-submission of such proof:

.....
 .

 .

 .

2.8. Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? **YES/NO**

2.8.1. If so, furnish particulars:

.....
 .

 .

 .

2.9. Do you, or any person connected with the Tenderer, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this tender? **YES/NO**

2.9.1. If so, furnish particulars:

.....
 .

 .

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

- 2.10. Are you, or any person connected with the Tenderer, aware of any relationship (family, friend, other) between any other Tenderer and any person employed by the state who may be involved with the evaluation and or adjudication of this tender? **YES/NO**



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

2.10.1. If so, furnish particulars:

.....

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.....

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.....

.

2.11. Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are tendering for this contract?
YES/NO

2.11.1. If so, furnish particulars:

.....

.

.....

.



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

Returnable Documents

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

Full Name	Identity Number	Personal Income Tax Reference Number	State Employee Number / Personnel Number

4. DECLARATION

I, THE UNDERSIGNED (NAME)

..... CERTIFY THAT THE
INFORMATION FURNISHED IN PARAGRAPHS 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE TENDER OR ACT AGAINST ME
SHOULD THIS DECLARATION PROVE TO BE FALSE.

Name

Signature

Date

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

Returnable Documents

T2.1.21 Declaration of Tenderer's Past Supply Chain Management Practices (MBD8)

- 1 This Standard Tendering Document must form part of all tenders invited.
- 2 It serves as a declaration to be used by institutions 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 disregarded if that Tenderer, or any of its directors have-
 - a. abused the institution's supply chain management system;
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the tender.**

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

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

.....

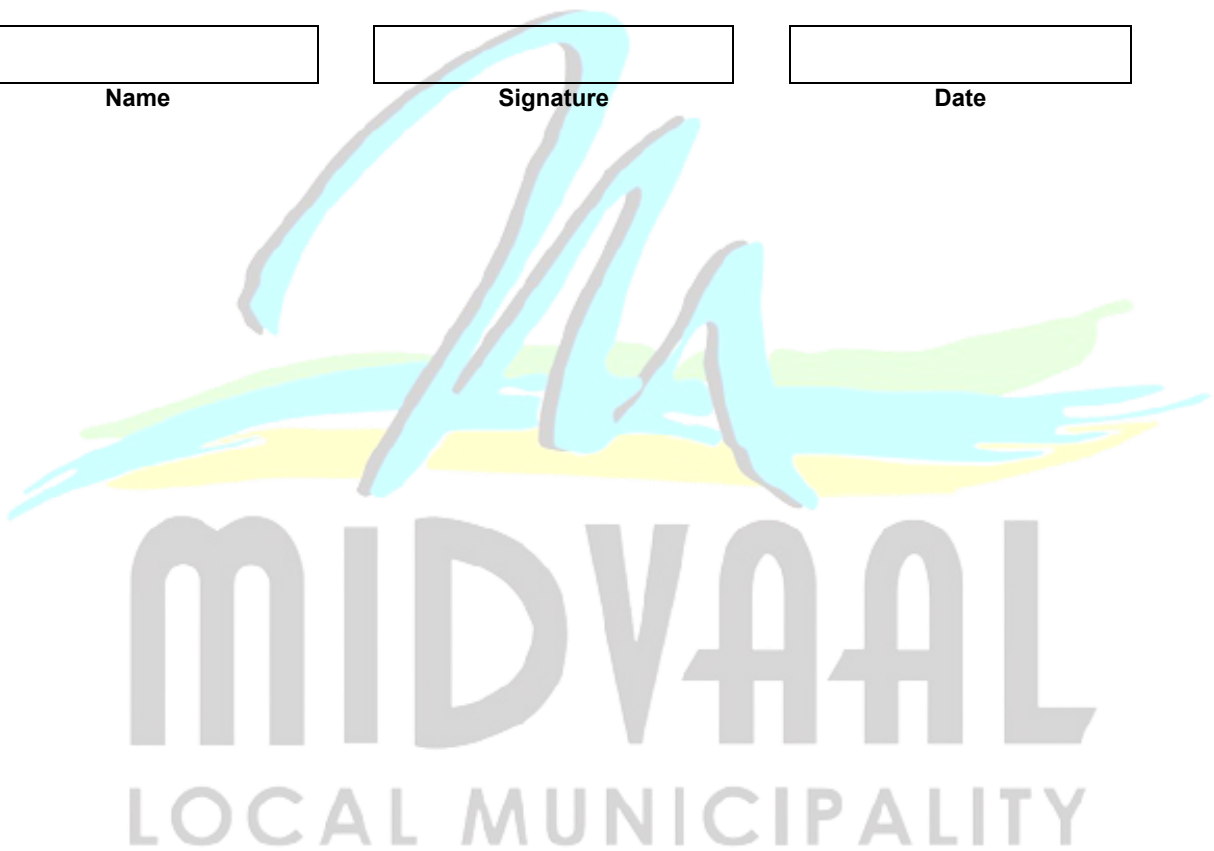
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

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

Name

Signature

Date



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.22 Certificate of Independent Tender Determination (MBD9)

1. This Standard Tender Document must form part of all tenders¹ 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).² Collusive tendering is a *pe se* prohibition meaning that it cannot be justified under any grounds.
3. Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
 - a. disregard the tender of any tenderer if that tenderer, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the tendering process or the execution of that contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when tenders are considered, reasonable steps are taken to prevent any form of tender-rigging.
5. In order to give effect to the above, the attached Certificate of Tender Determination (MBD 9) must be completed and submitted with the tender:

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

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

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

MBD 9

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying tender:

(Tender Number and Description)

in response to the invitation for the tender made by:

(Name of Institution)

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

I certify, on behalf of that:
(Name of Tenderer)

1. I have read and I 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 respect;
3. I am authorized 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 authorized 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;
 - (b) could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the Tenderer and/or is in the same line of business as the Tenderer

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

6. The Tenderer has arrived at the accompanying tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ will not be construed as collusive tendering.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a 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.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this 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 of the awarding of the contract.

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

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

Position	Signature	Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.23 Form Concerning Fulfilment of the Construction Regulations

In terms of regulation 4(3) of the Construction Regulations, 2014 (hereinafter referred to as the Regulations), promulgated on 18 July 1993 in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) the Employer shall not appoint a contractor to perform construction work unless the Contractor can satisfy the Employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

1. I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the requirements of the Regulations. (Tick)

YES	
NO	

2. Proposed approach to achieve compliance with the Regulations (Tick)

Own resources, competent in terms of the Regulations (refer to 3 below)	
Own resources, still to be hired and/or trained (until competency is achieved)	
Specialist subcontract resources (competent) - specify:	
.....	
.....	
.....	
.....	
.....	
.....	

3. Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the Contract team as specified in the Regulations (CVs to be attached):

.....

..

.....

..

.....

..

4. Provide details of proposed training (if any) that will be undergone:

.....

..

.....

..

.....

..

.....

..

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

5. Potential key risks identified and measures for addressing risks:

.....

.....

.....

.....

6. I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period. (Tick)

YES	
NO	

Name

Signature

Date

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.24 General Information (Procurement)

1. Name of tendering entity:
2. Contact details:
 Contact name and number:
 Address of tendering entity:
 Postal code:
 Tel no: () Fax no: ()
 E-mail address:

3. Legal entity: Mark with an X.

Sole proprietor	
Partnership	
Close corporation	
Company (Pty) Ltd	
Joint venture	

In the case of a Joint venture, provide details on joint venture members:

Joint venture member	Type of entity (as defined above)

4. Income tax reference number: **(COMPULSORY)**
 (In the case of a joint venture, provide for all joint venture members)

.....

Employer:		Contractor:	
Witness:		Witness:	

5. VAT registration number (**COMPULSORY**):
(In the case of a joint venture, provide for all joint venture members)

.....

.....

6. Company or closed corporation registration number (**COMPULSORY**):
(In the case of a joint venture, provide for all joint venture members)

.....

.....

7. Construction Industry Development Board (CIDB) registration number (**COMPULSORY**):
(In the case of a joint venture, provide for all joint venture members)

.....

.....

8. Municipal rates and taxes or service charges accounts of tendering entities and its directors / members
(**COMPULSORY**)
(In the case of a joint venture, provide for all joint venture members)
ATTACH COPIES OF ALL LATEST MUNICIPAL ACCOUNTS (SEE "NOTICE TO TENDERERS: VERY IMPORTANT NOTICE ON DISQUALIFICATIONS" PARAGRAPH No. 13)

9. Details of proprietor, partners, closed corporation members, or company directors, indicating technical qualifications where applicable (Form on the next page).

10. For joint ventures the following must be attached:

- Written authority **of each JV partner**, for authorized signatory.
- The joint venture agreement.

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	<i>1</i>	2				
Part	T1	<i>T2</i>	C1	C2	C3	C4

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Returnable Documents

DETAILS OF PROPRIETOR, PARTNERS, CLOSED CORPORATION MEMBERS OR COMPANY DIRECTORS

(In the event of a joint venture, to be completed by all joint venture partners)

Name and Surname	Identity Number	Relevant qualifications and experience	Years of relevant experience

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.25 Specific Goals

1. Equity Ownership

List all partners, shareholders or members of tendering entity by name, identity number, citizenship, gender, race, HDI status and ownership. In the case of a JV, complete an Equity ownership for each JV member.

Name and Surname	Position Occupied in Enterprise	Identity Number	Date RSA Citizen-ship obtained	Gender Male / Female	Race	HDI Status (Yes/No)	Date of Ownership	% Owned by HDIs	% Owned by Women	% Owned by Disabled
TOTAL								A	B	C

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

Note: Where owners are themselves a company or partnership, identify the ownership of the holding firm.

In the case of joint ventures equity ownership for each of the JV members are determined as above, and the combined HDI ownership is then calculated as follows:

Joint venture members	a % Contribution to the JV	b %BBBEE	c = a * b ÷ 100 % BBBEE contribution
Total BBBEE contribution			

A COPY OF A VALID SIGNED JOINT VENTURE AGREEMENT MUST BE ATTACHED TO THE TENDER DOCUMENT. FAILURE TO COMPLY WITH ABOVE-MENTIONED WILL RESULT IN REJECTION OF THIS TENDER

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

2. SMME Status

Provide details on the following

Sector/Sub-Sector in accordance with the Standard Industrial Classification	
Total Full-time Equivalent of paid Employees	
Total Annual Turnover	
Total Gross Asset Value	
Size or Class (Medium, Small, Very Small,	

NOTE: If all of the above does not adhere to the definition of a single class, use the total Annual Turnover only to decide on the class.

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.26 Declaration Certificate for Local Production and Content Designated Sectors (MBD6.2)

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

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.
- 1.2. Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - \frac{x}{y}] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.

- 1.6. A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation;

2. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
Concrete Materials	70%

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

Power Cables	90%
Fabricated Structural Steel	100%
Valves	70%
Check Valves	70%
	70%
Ball Valves	70%
	70%
Butterfly Valves	70%
	70%
Gate Valves	70%
	70%
Fire Hydrants (Underground) Fire Deluge Valve	70%
Pressure Reducing Valve (PRV)	70%
(Self-Regulating Valve)	
Control valve	70%
(Globe Control Valve. Piston Type Control	70%
	70%
Air valve	70%
(Vacuum release valve)	70%
Pinch valve (slurry valve)	70%

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

Returnable Documents

3. Does any portion of the goods or services offered have any imported content? **(Tick applicable box)**

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

- 3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

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

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION (REFER TO ANNEX B OF SATS 1286:2011)

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

IN RESPECT OF BID NO.

ISSUED BY: (Procurement Authority / Name of Institution):

.....
NB

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thdti.gov.za/industrial-development/ip.jsp>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2					
Part	T1	T2	C1	C2	C3	C4	

Returnable Documents

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

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
- (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.27 Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2022 (MBD6.1)

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

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

- a) The applicable preference point system for this tender is the **90/10** preference point system. OR
- b) The applicable preference point system for this tender is the **80/20** preference point system.
- c) Either the **90/10 or 80/20 preference point system will be applicable** in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

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

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

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 **THE 80/20 or 90/10 PREFERENCE POINT SYSTEMS**

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

80/20 or 90/10

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

Where

P_s = Points scored for price of tender under consideration

P_t = Price of bid under consideration

P_{min} = Price of lowest 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:
- 4.2 If it is unclear whether the 80/20 or 90/10 preference point system applies, the following will apply:—

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

- (a) an invitation for tender for income-generating contracts, either the 80/20 or 90/10 preference point system will apply and the highest acceptable tender will be used to determine the applicable preference point system; or
- (b) any other invitation for tender, either the 80/20 or 90/10 preference point system will apply and the lowest acceptable tender will be used to determine the applicable preference point system;
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

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

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)	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Local Enterprise	5	N/A		N/A
B-BBEE	5	N/A		N/A

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3 Name of company/firm _____

4.4 Company registration number _____

4.5 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]

4.6 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,

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

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.

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Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.2.21 Declaration Of Bidder's Past Supply Chain Management Practices (MBD 8)

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

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

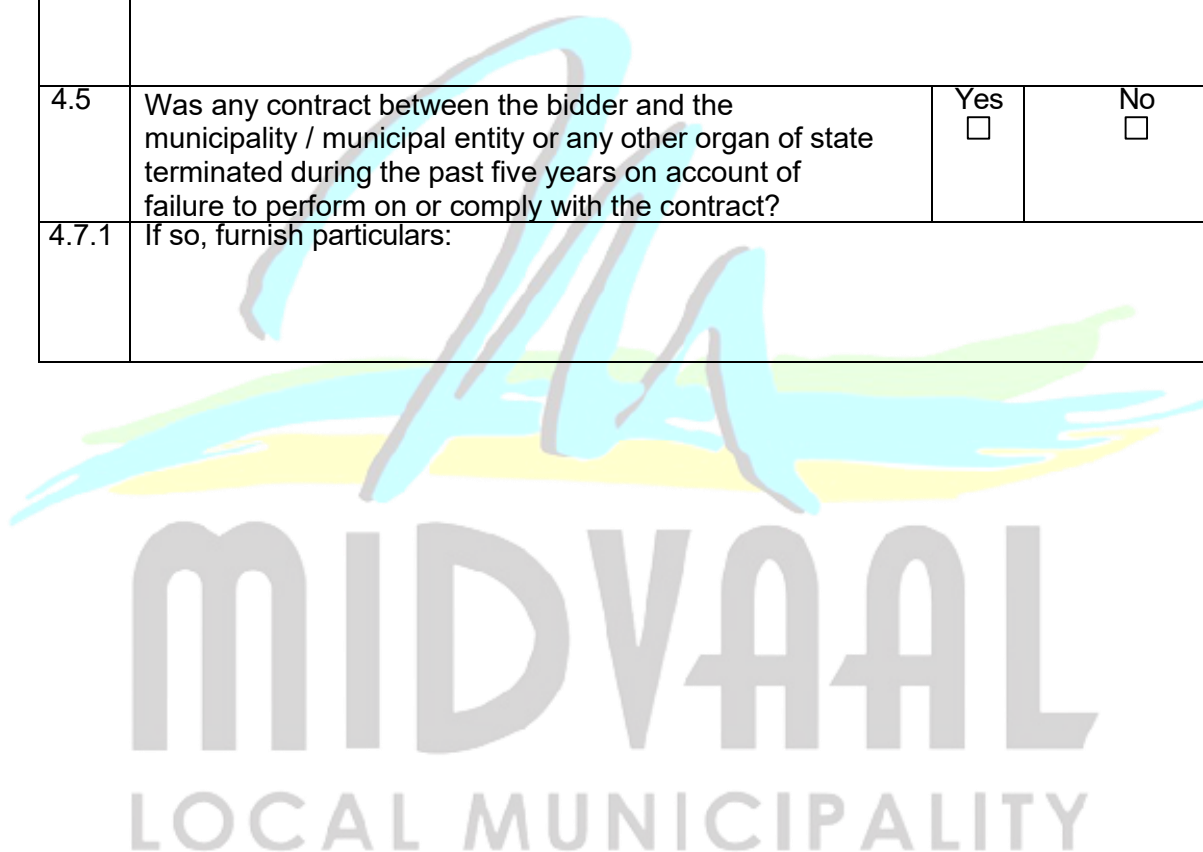
Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the audi alteram partem rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

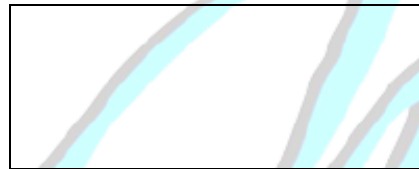
Returnable Documents

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) _____

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

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



SIGNATURE



DATE



POSITION



NAME OF BIDDER

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.28 Tenderers Financial Standing

In terms of Clause F2.1 of the Tender Data the Employer may make inquiries to obtain a bank rating from the Tenderer's bank.

To that end the Tenderer must provide with his Tender a bank rating, certified by his banker, to the effect that he will be able to successfully complete the contract at the tendered amount, within the specified time for completion.

Name of account holder:

.....

Name of Bank: Branch:

Account number: Type of account:

Telephone number: Facsimile number:

Name of contact person (at bank): Bank Rating:

Failure to provide either the required bank details or a certified bank rating with his Tender, will lead to the conclusion that the Tenderer does not have the necessary financial resources at his disposal to complete the contract successfully within the specified time for completion. As such, his Tender will be ruled as "invalid".

The Employer reserves the right to confirm with the Tenderer's bank that the supplied bank rating has not changed since the submission of the Tender.

The Employer undertakes to treat the information thus obtained as confidential, strictly for the use of evaluation of the tender submitted by the Tenderer.

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.29 CIDB Contractor Registration Certificate

A Certificate of Contractor's Registration issued by the Construction Industry Development Board (CIDB) shall be attached to this page.

Where a tenderer satisfies CIDB Contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.

Tenderers should have a CIDB Contractor Grading Designation as follows:

2CE or HIGHER



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

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

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

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

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

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

Employer:		Contractor:	
Witness:		Witness:	

Volume	<u>1</u>	2				
Part	T1	<u>T2</u>	C1	C2	C3	C4

Returnable Documents

THIRD PARTY AUTHORISATION TO VIEW BIDDER TCS:

To assist with the evaluation process of your bid we require your consent to check your SARS tax compliance via e-filing. Kindly complete the table below authorising MLM to check TCC for tender purposes only.

TCS Details	
Tax payer name	
Trading Name	
Purpose of request	TENDER
Request Reference number	
PIN	
PIN EXPIRY DATE	

Note: Bidders may attach their Tax compliance status printout to the bidding document.

I, _____ in my capacity as _____ duly appointed as authorised signatory holder, hereby grant **Midvaal Local Municipality** permission to check the TCC status of _____ and it is duly understood that the search is for tender purposes only.

NAME AND SURNAME

DESIGNATION

DATE

SIGNATURE

SIGNED BY/ON BEHALF OF TENDERER:

Name

Signature

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

T2.1.30 Performance Management System

The Municipal Finance Management Act (No. 56 of 2003) Section 116 (2) (d) determines that a Municipality must enter into a Performance Management System (PMS) with all service providers.

An assignment specific PMS has been drafted and needs to be signed by the appointed signatory as part of this tender document and the costing for this project will run for 36 months from the date of appointment.

ACCEPTANCE OF PMS AGREEMENT

You are hereby requested to sign this document as acceptance of the agreement. Failure to sign this document will lead to disqualification.

CONTRACTOR

SIGNATURE

NAME

MIDVAAL
LOCAL MUNICIPALITY

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	C1	C2	C3	C4

Returnable Documents

ANNEXURE “B”
PERFORMANCE MANAGEMENT SYSTEM EXTERNAL SERVICE PROVIDERS
(in terms of Section 116 of the Municipal Finance Management Act, Act 56 of 2003)

CONTRACT		BID TO APPOINT A PANEL OF CONTRACTORS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIRS WITHIN MIDVAAL LOCAL MUNICIPALITY ON AN AS-AND-WHEN-REQUIRED BASIS FROM 1 JULY 2026 UNTIL 30 JUNE 2029			
COMPANY					
TENDER NO		BID 8/2/2/465	/DATE APPROVED		
TERM OF CONTRACT		FROM 1 JULY 2026 TO 30 JUNE 2029			
RESPONSIBLE PERSON FOR ASSESSMENT & COMPLETION OF PERFORMANCE REPORT					
KEY PERFORMANCE AREA	KEY PERFORMANCE INDICATOR	RESPONSIBLE PERSON & TARGET DATE	COMPLIANCE & DATE	DEVIATIONS, IF ANY, PROVIDE REASONS	AGREED RECTIFICATION MEASURES TO COMPLY
A. OPERATIONAL KPI's (TO BE COMPLETED BY RELEVANT DEPARTMENT ACCORDING TO APPROVED TENDER SPECIFICATIONS)					
Project Initiation	1. Submit and obtain approval for Health & Safety file. 2. Inform department of labour about the project. 3. Submit construction programme and obtain approval from the Engineer. 4. Provide Public Liability Insurance of 5 million 5. Provide construction guarantees as required.	Service Provider Within 14 days of award.			
Contract Administration	1. Provide Monthly progress report. 2. Provide an updated construction programme Monthly 3. Submit invoices on or before 25 th of each month. 4. Attend site meetings as arranged by the Engineer.	Service Provider Monthly.			
Construction	1. Compliance with health and safety requirements. 2. Comply with quality requirements.	Service Provider Monthly or as required.			

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	CI	C2	C3	C4

Agreement and Contract Data

Submission of Invoices	6. The Original Tax Invoices sub-mitted for payment reflects the following information: 7. On letterhead 8. Business street/physical address 9. Business telephone and fax number 10. Quotation reference num-ber 11. Company VAT Registra-tion Number (if applicable) 12. Midvaal Local Municipa-lity's VAT Registration Number: 4700193503 13. Tax Reference Number 14. 8. Company Registration Number	Service Provider Monthly			
Indemnity Clause	15. Indemnification of Midvaal Local Municipality of any in-juries or losses that may occur during the execution of work	Service Provider Annually			
Occupational Health & Safety Act	16. Compliance to Occupational Health & Safety Act at all times	Service Provider Ongoing			
Construction Industry Development Board (on CIDB bids)	17. Construction Guarantee sub-mitted within the stipulated time-frame in the form of: 18. 1. Valid bank guaranteed cheques; or 19. 2. An official bank construc- tion guarantee on letter- head from the bank or in- stitution	Service Provider Annually			

Accepted and agreed upon:

ON BEHALF OF SERVICE PROVIDER_____
SIGNATURE: MIDVAAL LOCAL MUNICIPALITY_____
DATE_____
DATE

Employer:		Contractor:	
Witness:		Witness:	

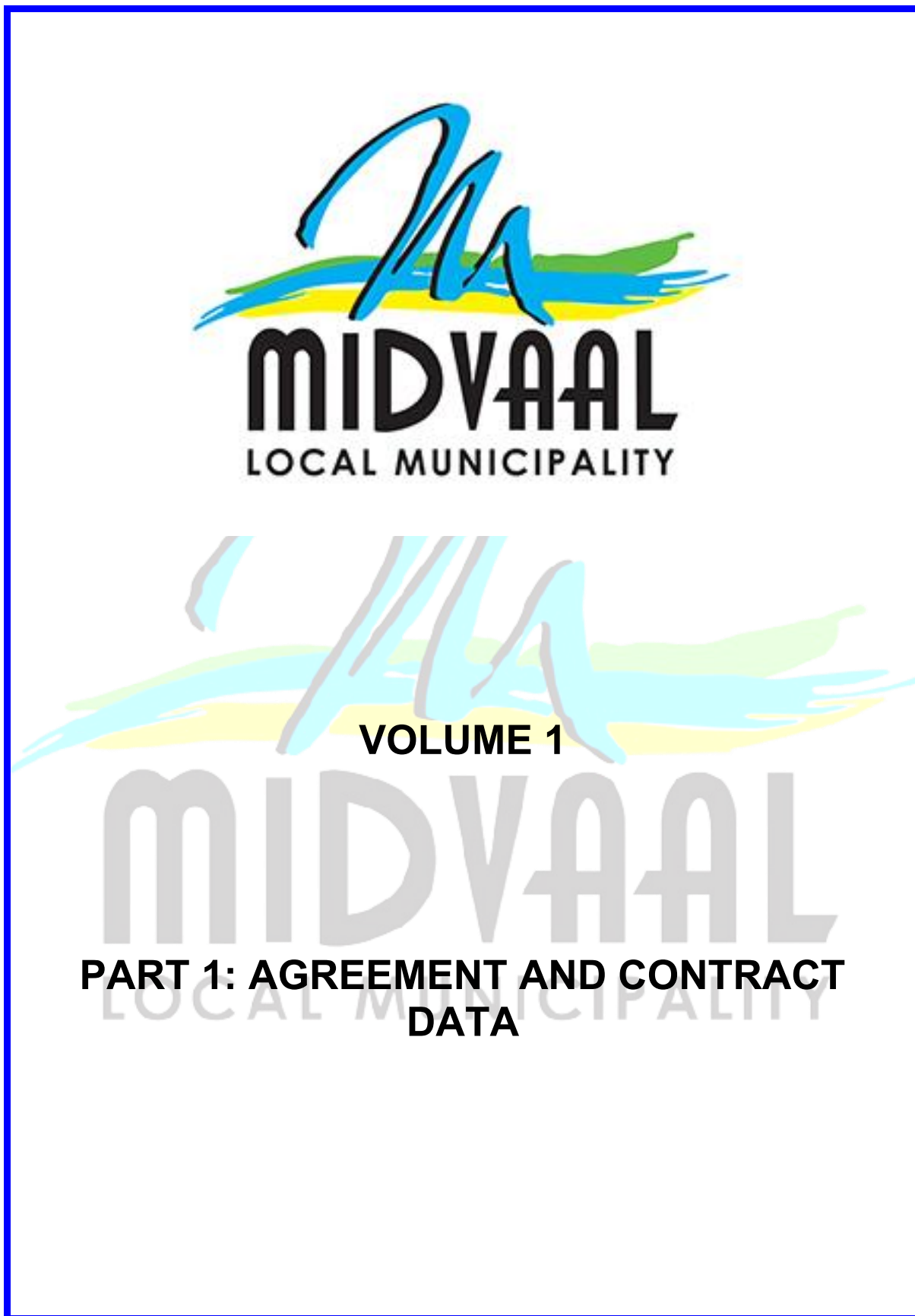
Volume	1	2				
Part	T1	T2	C1	C2	C3	C4



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	CI	C2	C3	C4

Agreement and Contract Data



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

C1.1 FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

FORM OF OFFER 1: BID TO APPOINT A PANEL OF SERVICE PROVIDERS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIR WITH IN MIDVAAL LOCAL MUNICIPALITY ON AS AND WHEN REQUIRED BASIS FROM 1 JULY 2026 TO 30 June 2029

THE TENDERER IS TO COMPLETE AND SIGN THE FORM OF OFFER

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

8/2/2/465_(2026-2029): BID TO APPOINT A PANEL OF SERVICE PROVIDERS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIR WITH IN MIDVAAL LOCAL MUNICIPALITY ON AS AND WHEN REQUIRED BASIS FROM 1 JULY 2026 TO 30 June 2029

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

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor/Service Provider 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 and Pricing data.

THE OFFERED RATES TO PROVIDE THE WORKS, EXCLUSIVE OF VALUE ADDED TAX, ARE AS SET OUT IN THE PRICING DATA

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

Signature(s)

Name(s)

Capacity

For the Tenderer

(Name and address of organisation)

Name and
signature of
witness

Date _____

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	CI	C2	C3	C4

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FORM OF ACCEPTANCE: BID TO APPOINT A PANEL OF SERVICE PROVIDERS FOR THE REPAIRS AND MAINTENANCE OF RESERVOIR WITH IN MIDVAAL LOCAL MUNICIPALITY ON AS AND WHEN REQUIRED BASIS FROM 1 JULY 2026 TO 30 June 2029

T1.3.5 THE EMPLOYER IS TO COMPLETE AND SIGN THE FORM OF ACCEPTANCE

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

The terms of the contract are contained in

- Part 1 Agreement and Contract Data, (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site Information
- Part 5 Drawings

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

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

The Tenderer shall within 28 days after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the employer's agent (whose details are given in the Contact Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date of this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now the Contractor) within five days after 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 binding contract between the parties,

FOR EMPLOYER OFFICIAL USE ONLY

Signature(s)

Name(s)

Capacity

**For the
Employer**

(Name and address of organisation)

**Name and
signature of
witness**

Date

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	CI	C2	C3	C4

T1.3.6 SCHEDULE OF DEVIATIONS: RESERVOIR MAINTENANCE AND REPAIR

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; and
4. Any change or addition to the tender documents arising from the above arrangements and recorded here shall also be incorporated into the final draft of the Contract.

1	Subject	
	Details	
2	Subject	
	Details	
3	Subject	
	Details	
4	Subject	
	Details	
5	Subject	
	Details	
6	Subject	
	Details	
7	Subject	
	Details	
8	Subject	
	Details	

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

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed and

Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	CI	C2	C3	C4

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signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

For the Tenderer:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

For the Employer:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	CI	C2	C3	C4

T1.4 CONTRACT DATA

The General Conditions of Contract for Construction Works (2025) published by the South African Institution of Civil Engineering, are applicable to this contract.

Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Telephone number: 011-805 5947)

T1.4.1 PART 1: DATA PROVIDED BY THE EMPLOYER

GCC Clause	Information
1.1.15	The name of the Employer is Assistant Director Water of Midvaal Local Municipality
1.2.1	The address of the Employer is: Address Tel: 016 360 5808 25 Mitchell Street, Fax: 086 502 0523 Meyerton, 1961 Email: tenders@midvaal.gov.za Midvaal
1.1.16	The name of the Engineer is Assistant Director Water of Midvaal Local Municipality
1.2.1.2	The address of the Engineer is: Address Tel: 016 360 5806 25 Mitchell Street, Fax: 086 502 0523 Meyerton, 1961 Email: tenders@midvaal.gov.za Midvaal
5.8.1	The special non-working days are All Public Holidays in terms of the Public Holidays Act as amended.
5.8.1	The year end break commences on 16 December until the first working Monday of January of the succeeding year.
6.2.1	Not Applicable
1.1.1.14	The time for achieving Practical Completion for the whole of the Works is 24 months.
5.3.1	The documentation required before commencement with works executed are: • Health and Safety Plan (Clause 4.3) • Guarantee from Bank or Insurance Company (Clause 6.2) • Insurance of Construction Machinery Plant (Clause 8.6) • Insurance of Motor Vehicle liability (Clause 8.6) • Commissioner of COID (Clause 8.6) • Signed Notification to the Department of labour • Construction Permit where applicable
6.8.2	This Contract Price shall be a FIXED for the first 12 months of the contract and escalated in accordance to CPI on the anniversary of the appointment. N/A
6.8.3	Price adjustments for variations in the costs of special materials are NOT allowed.
6.10.1.5	No percentage advancement on materials is permitted.
6.10.3	The percentage retention on the amounts due to the Contractor is 10%.

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
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GCC Clause	Information
6.10.6	Delete this clause 6.10.3 and Replace with this : A Retention Money Guarantee will be explained on the Purchase order and will depend on the value of work issue on that purchase order.
1.1.1.13	N/A
10.4.2	Dispute resolution shall be by arbitration if amicable settlement has failed.
10.5.3	The adjudication board shall consist of three members.

T1.4.1.1 Variations

The variations to the General Conditions of Contract are:

No variations to the General Conditions of Contract are:			
GCC Clause	Information		
8.6	Notwithstanding anything elsewhere contained in the Contract and without limiting the obligations, liabilities or responsibilities of the Contractor in any way whatsoever (including but not limited to any requirement for the provision by the Contractor of any other insurances) the Employer shall effect and maintain as appropriate in the joint names of the Employer and the Contractor and where relevant Sub-Contractors the following insurances which are subject to the terms, limits, exceptions and conditions of the Policy :		
8.6.1.1	Contract Works Insurance – which will provide cover against accidental and physical loss of or damage to the Works, Temporary Works and Materials intended for incorporation in the Works from whatsoever cause arising other than causes set out in Clause 8.3.1		
8.6.1.1	for which the Contractor is responsible for the Works in terms of Clause 8.2.1, and		
8.6.1.1	for a sum insured which shall, unless otherwise specified in the Contract, be the aggregate of :		
8.6.1.1.1	the Contract Price,		
8.6.1.1.2	a sum to cover the value (specified at the time of delivery to the Contractor) of materials supplied by the Employer for incorporation in the Works and not included in the Contract Price, and		
8.6.1.1.3	N/A		
8.6.1.2	Public Liability Insurance which will provide indemnity against legal liability in the event of accidental death of or injury to third party persons and/or loss or damage to third party property arising directly from the execution of the Contract and occurring during the period of Insurance with a limit of indemnity of R5million in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause.		
8.6.1.3	Following the introduction of legislation affecting the articles of the South African Special Risks Insurance Association (SASRIA) , insurance cover for loss or damage to the Works caused by any event defined as a risk in terms of the insurance offered by SASRIA, will be provided under a certificate issued by SASRIA.		
8.6.1.4	Full details of the Contract Works and Public Liability insurances effected by the Employer may be obtained from the Employer and the Contractor/Subcontractors		
Employer:		Contractor:	
Witness:		Witness:	

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GCC Clause	Information
	are deemed to be aware of the terms, exclusions and conditions of these insurances.
8.6.1.5	The Employer shall pay the premium in connection with the insurances effected by the Employer in 8.6.1.1, 8.6.1.2 and 8.6.1.3 above.
8.6.2	The Employer/Contractor/Sub-contractors and/or any other party who obtains indemnity under the policies effected under 35.1.1, 35.1.2 and 35.1.3 above shall become liable for the deductibles (first amount payable) which are applicable in respect of each and every occurrence or series of occurrences attributable to one source or cause giving rise to loss or damage or indemnifiable liability.
8.6.3	In the event of an occurrence which is likely to give rise to a claim under the insurance effected by the Employer, the following procedure shall be adhered to:
8.6.3.1	In addition to any statutory requirements and/or other requirements contained in the Conditions of Contract, the Contractor shall immediately notify the Employer's Insurance Brokers, giving the circumstances, nature and an estimate of the loss or damage.
8.6.3.2	The Contractor shall, when required, complete a claims advice form, available from the Employer's Insurance Brokers, to whom the form shall be returned without delay.
8.6.3.3	The Contractor shall afford all access to the representatives of the Insurers for the purpose of the assessment of any loss or damage.
8.6.3.4	Negotiations on the settlement of claims shall be conducted by the Contractor/Sub-Contractor with the Insurers through the Employer's Insurance Brokers.
8.6.4	Any amount which becomes payable to the Contractor or any of his Sub-Contractors as a result of claim under the Contract Works Insurance shall if required by the Employer be paid net of the deductible to the Employer who shall pay the Contractor from the proceeds of such payment upon rectification repair or reinstatement of the loss or damage but this provision shall not in any way affect the Contractor's obligations liabilities or responsibilities in terms of the Contract.
8.6.5	The Contractor shall insure all Constructional Machinery and Plant (including tools, offices and other temporary structures and content) and other items, other than those intended for incorporation into the works, owned, leased or hired brought on to the Site against all risks of physical loss or damage for the period such Plant shall be on the Site to the full value thereof. In respect of Plant brought on to the Site by or on behalf of Sub-Contractors the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Sub-Contractors have similarly insured such Plant and Machinery. Such insurance shall be effected with an Insurer and in terms approved by the Employer (which approval shall not be unreasonably withheld) and the Contractor shall, when required, submit to the Employer's Insurance Brokers, the policy or policies of insurance and receipts for payment of the current premiums.
8.6.6	The Contractor and the Sub-contractors shall effect and maintain at their cost insurance under the provision of the Compensation for Occupational Injuries and Diseases Act (COID), 1993 (Act No. 130 of 1993).
8.6.7	The Contractor and the Sub-Contractors shall effect and maintain at their own cost motor vehicle liability insurance with at least indemnification for "balance of third party" risks, including passenger liability with a limit of indemnity of not less than R2,5million.
8.6.8	The Contractor and the Sub-Contractors shall effect and maintain at their own cost any additional insurance, which they deem necessary to cover damage or loss or

Employer:		Contractor:	
Witness:		Witness:	

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GCC Clause	Information
	injury not insured in terms of the insurance effected by the Employer. Such insurance shall be effected with an Insurer and in terms approved by the Employer (which approval shall not be unreasonably withheld) and the Contractor shall, when required, submit to the Employer's Insurance Brokers the policy or policies of insurance and the receipts for payment of the current premiums. If the Contract entails manufacture and or assembly of the Works or part thereof on a site other than the Contract site, the Contractor must satisfy the Employer that all materials and equipment intended for incorporation into the Works are adequately insured during manufacture and assembly. If the Employer has an insurable interest in such works during manufacture or assembly, such interest shall be recorded by way of endorsement on the policies concerned. The Contractor shall furnish the appropriate insurance policies to the Employer within 14 days from the Commencement Date.
8.6.9	Submission of the Tender will be construed by the Employer as acceptance by the Contractor that he is satisfied with the insurance effected by the Employer supplemented by any additional insurance which he shall specify in the manner provided for in the Schedule of Assessment.
8.6.10	The Contractor shall give all notices and observe all conditions and requirements imposed by any and all relevant insurance policies which shall be read as being part of the General Conditions of Contract and which shall be binding on the Contractor.
8.6.11	In addition to any statutory obligations, or other requirements contained in the Conditions of Contract, the Contractor shall report in writing to both the Engineer and the Employer's Insurance Brokers every accident within 48 hours of its occurrence, whether such accident is in respect of damage to persons or property. The report shall contain full details of the accident. The Engineer and/or the Employer's Insurers shall have the right to make all and any enquiries either on the Site or elsewhere as to the cause and results of any such accident and the Contractor shall give the Engineer and/or the Employer's Insurers full facilities for carrying out such enquiries.
8.6.12	Negotiations on the settlement of claims under the insurance effected by the Employer shall be conducted by the Contractor/Sub-Contractor with the Insurers through the Employer's Insurance Brokers.
8.6.13	Any claims against the insurance effected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Policy as being the Deductible (First Amount Payable) as defined in the Policy.
8.6.14	The Employer shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the employ of the Contractor or any Sub-Contractor save and except an accident or injury resulting from any act or default of the Employer, its agents or servants and the Contractor shall be deemed to have indemnified and shall keep indemnified the Employer against all such damages and compensation (save and except as aforesaid) and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.
8.6.15	The Contractor shall insure in the joint names of the Employer, the Contractor and all Sub-Contractors (whether nominated or otherwise) for an amount of R2million per occurrence against the liability stated in Sub-Clause 35.1.18 with an Insurer approved by the Employer (which approval shall not be unreasonably withheld) and shall continue such insurance during the whole of the time that any persons are employed by him on the Works and shall submit to the Engineer such policy of

Employer:		Contractor:	
Witness:		Witness:	

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GCC Clause	Information
	insurance and the receipt of payment of the current premium. Provided always that in respect of any persons employed by any Sub-Contractor, the Contractor's obligation to insure as aforesaid under this Sub-Clause shall be satisfied if the Sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy of insurance but the Contractor shall require such Sub-Contractor to produce to the Engineer such policy and the receipt for payment of the current premium.
8.6.16	If the Contractor shall fail to effect and keep in force the insurances referred to in this Clause or for any other insurance which he may be required to effect in terms of the Contract, then and in any such case the Employer may effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any monies due or which may become due to the Contractor or recover the same as a debt due from the Contractor.
8.6.17	The Contractor shall ensure that all proposed and appointed sub-contractors are fully aware of the contents of Clause 8.6.14
8.6.1.1.2	The value of the materials supplied by the Employer to be included in the insurance sum is nil.
8.6.1.1.3	N/A

Employer:		Contractor:	
Witness:		Witness:	

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T1.4.1.2 Additions

The additional Conditions of Contract are:

GCC Clause	Information
2.4	Ambiguity in documents Add clause 2.4 The Employer or the Contractor shall notify the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents, which are part of this Contract. Governed by the spirit and intention of the Contract, the Employer shall give a binding instruction resolving the ambiguity or inconsistency.
5.9.1	Instructions and drawings Add clause 5.9.1 5.9.1 Source of instructions The Contractor shall neither seek nor accept instructions from any authority external to the Employer, the Engineer or their authorized representatives in connection with the performance of his services under this Contract. The Contractor shall refrain from any action which may adversely affect the Employer and shall fulfill his commitments with fullest regard for the interest of the Employer.
5.9.1	Instructions and drawings Add clause 5.9.1 5.9.1.1 Instructions The Engineer may issue contract instructions to the Contractor regarding: 5.9.1.2 Alteration to design, quality or quantity of the works provided that such contract instructions shall not substantially change the scope of the works. 5.9.1.3 Rectification of discrepancies, errors in description or omissions in contract documents other than this document. 5.9.1.4 Removal of any materials and goods from the site and the substitution of any other materials and goods therefor. 5.9.1.5 Removal or re-execution of any work. 5.9.1.6 Opening up of work for inspection. 5.9.1.7 Provision and testing of samples of materials and goods, specimens of finished and assemblies of elements of the works. 5.9.1.8 Protection of the works. 5.9.1.9 Making good physical loss and repairing damage to the works. 5.9.1.10 Removal from the site of any party employed on the works. 5.9.1.11 Removal from the site of any persons not engaged on or connected with the works. 5.9.1.12 The appointment of nominated subcontractors, the nominated subcontract amounts and the work to be executed thereunder. 5.9.1.13 Proof of payment to nominated subcontractors. 5.9.1.14 Notices to nominated subcontractors. 5.9.1.15 Prime cost amounts and the purchase of materials and goods included therein. 5.9.1.16 Budgetary allowances and work executed by the contractor thereunder.
5.9.13	Instructions and drawings Add clause 5.9.1 5.9.1.17 Default of Contractor in carrying out Engineer's or his duly authorized representative Instructions In case of default on the part of the Contractor in carrying out an instruction of the Engineer or his duly authorized representative, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer and may be deducted by the Employer from any monies due or which may become due to the Contractor.

Employer:		Contractor:	
Witness:		Witness:	

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Part	T1	T2	CI	C2	C3	C4

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8.6	Insurances Add clause 8.6 35.9 Special Insurances The Contractor shall provide temporary lateral support insurance where the Employer considers that the execution of the works could cause the weakening of or interference with the support of land adjacent to the site and the consequences thereof.
5.13	Penalties Add clause 5.13 During the Contract Period should the Contractor: 5.13.1.1 Fail to comply with the specifications a) The Employer shall levy a penalty on the Contractor, should the latter fail to perform any ordered Works that complies at minimum with the specification as highlighted per the Scope of Work. b) The value of the penalty shall be determined cumulative as R1,000.00, but not exceeding a total amount of R10,000.00. Should the penalty reach the maximum specified limit the Employer shall reserve the right to: 1) terminate the Contract; 2) perform the Works internally or through another Contractor; and 3) deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor. No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrence or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-mentioned reasons. 5.13.1.2 Fail to provide support, management and coordination a) The Employer shall levy a penalty on the Contractor, should the latter fail to provide the undertaken management, coordination and support. b) The value of the penalty shall be determined cumulative as R1,000.00 per day, but not exceeding a total amount of R10,000. Should the penalty reach the maximum specified limit the Employer shall reserve the right to: 1) terminate the Contract; 2) perform the Works internally or through another Contractor; and 3) deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor. No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrence or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-
Employer:	Contractor:
Witness:	Witness:

Volume	1	2				
Part	T1	T2	CI	C2	C3	C4

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GCC Clause	Information
	mentioned reasons. 5.13.1.3 Fail to complete a Works Order The Employer shall levy a penalty on the Contractor, should they fail to execute the works order within a 6 month period The value of the penalty shall be determined cumulative as R1,000.00 per day, but not exceeding a total amount of R50,000. Should the penalty reach the maximum specified limit the Employer shall reserve the right to: 1) terminate the Contract; 2) perform the Works internally or through another Contractor; and 3) deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor. No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrence or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-mentioned reasons. 5.13.1.4 Fail to pay SMME's and Labourers on time The Employer shall levy a penalty on the Contractor, should the latter fail to pay SMME's (subcontractors) or labourers on time as per their contract agreements. The value of the penalty shall be determined cumulative as R1 000.00 per day late, but not exceeding a total amount of R10, 000.00. Should the penalty reach the maximum specified limit the Employer shall reserve the right to: 1) terminate the Contract; 2) pay the SMME's or labourers through another Contractor; and 3) deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties. 5.13.1.5 Penalties irreversible The Contractor shall note that all penalties once imposed shall be non-recoverable or reversible, even if the default is remedied.
New	Add clause 11: 11 Confidential nature of documents All maps, drawings, photographs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled by or received by the Contractor under the Contract shall be the property of the Employer and Engineer, shall be treated as confidential and shall be delivered only to the Engineer or his duly authorized representative on completion of the Works; their contents shall not be made known by the Contractor to any person other than the personnel of the Contractor performing services under this Contract without the prior written consent of the Employer.
New	Add clause 12: 12 Officials not to benefit

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
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	The Contractor warrants that no official of the Employer has been or shall be admitted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of the Contract.
New	Add clause 13: 13 Prevention of corruption The Employer shall be entitled to cancel the Contract and to recover from the Contractor the amount of any loss resulting from such cancellation, if the Contractor has offered or given any person any gift or consideration of any kind as an inducement or reward for doing or intending to do any action in relation to the obtaining or the execution of the Contract or any other contract with the Employer or for showing or intending to show favour or disfavour to any person in relation to the Contract or any other contract with the Employer, if the like acts shall have been done by any persons employed by him or acting on his behalf whether with or without the knowledge of the Contractor in relation to this or any other Contract with the Employer.
New	Add clause 14: 14 False claims by the Contractor 14.1 Failure, by the Contractor, to demonstrate or present any feature declared during the procurement stage shall constitute grounds for Contract termination or the market related equivalent price discount, if no market related value is available, the Employer shall give a final ruling on the amount. This shall be at the discretion of the Employer based on the implication of such omission. Should the Contractor refuse to accept the Employer's price, the Contract shall be terminated. 14.2 Any false claims, by the Contractor or his staff (with or without his knowledge), based on Works to be performed or completed shall constitute grounds for Contract termination and result in blacklisting on the Employer's database. 14.3 The Contractor shall note that any of the above shall constitute non-performance on the part of the Contractor, further resulting in him forfeiting his full Contract Guarantee.
New	Add clause 15: In terms of EPWP requirements, the Contractor is to ensure compliance with the following: • Provide a certified ID copy (13 digit) for each local labourer (Once off) • Provide a certified and legible contract of employment for each local labourer (Once off) • Provide proof of payment of wages (Monthly) • Provide log sheets / timesheets for each local labourer (Monthly) • Provide proof of UIF deduction & contributions (Monthly) • Provide proof of good standing with COIDA (Monthly) Should the contractor fail to comply with the EPWP requirements, the penalties stipulated above for failure to provide support, management and coordination will apply.
New	Add clause 16: In terms of subcontracting / SMME's requirements, the Contractor is to ensure compliance with the following:

Employer:		Contractor:	
Witness:		Witness:	

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Forms and Securities

GCC Clause	Information
	• Provide a contract agreement indicating the value of the appointment, scope of works and duration of the contract • Provide EPWP required documentation for the subcontractors / SMME's as per Clause 15 Should the contractor fail to comply with the subcontracting / SMME requirements, the penalties stipulated in Penalty clauses above failure to provide support, management and coordination will apply.



Employer:		Contractor:	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	CI	C2	C3	C4

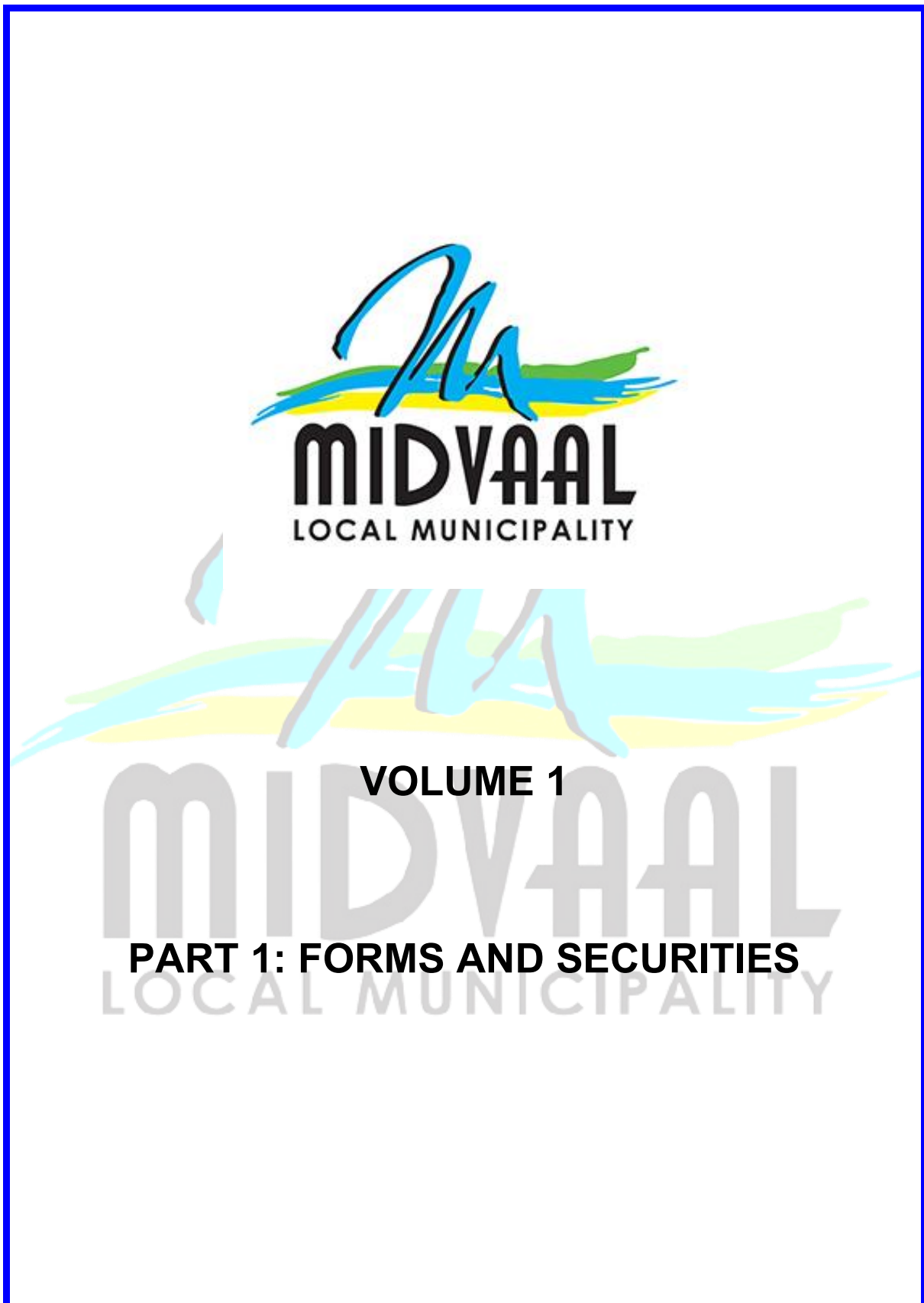
T1.4.2 PART 2: DATA PROVIDED BY THE CONTRACTOR

GCC Clause	Information																					
Clause 1.1.1.9	The name of the Contractor is																					
Clause 1.2.1.2	The address of the Contractor is: <table> <tr> <td>Physical</td><td>Postal</td><td>Tel:</td></tr> <tr> <td>.....</td><td>.....</td><td></td></tr> <tr> <td>.....</td><td>.....</td><td>Fax:</td></tr> <tr> <td>.....</td><td>.....</td><td></td></tr> <tr> <td>.....</td><td>.....</td><td>Email:</td></tr> <tr> <td>.....</td><td>.....</td><td>.....</td></tr> <tr> <td>.....</td><td>.....</td><td>.....</td></tr> </table>	Physical	Postal	Tel:						Fax:						Email:						
Physical	Postal	Tel:																				
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.....																						
Clause 6.8.3	The variation in cost of special materials is <table> <tr> <td>Type</td><td>Unit</td><td>Rate</td></tr> </table> NOT APPLICABLE	Type	Unit	Rate																		
Type	Unit	Rate																				

Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	CI	C2	C3	C4

Forms and Securities



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Forms and Securities

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C1.3.3 Health and Safety Contract: General Information	v



Employer:		Contractor:	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.5 FORMS AND SECURITIES

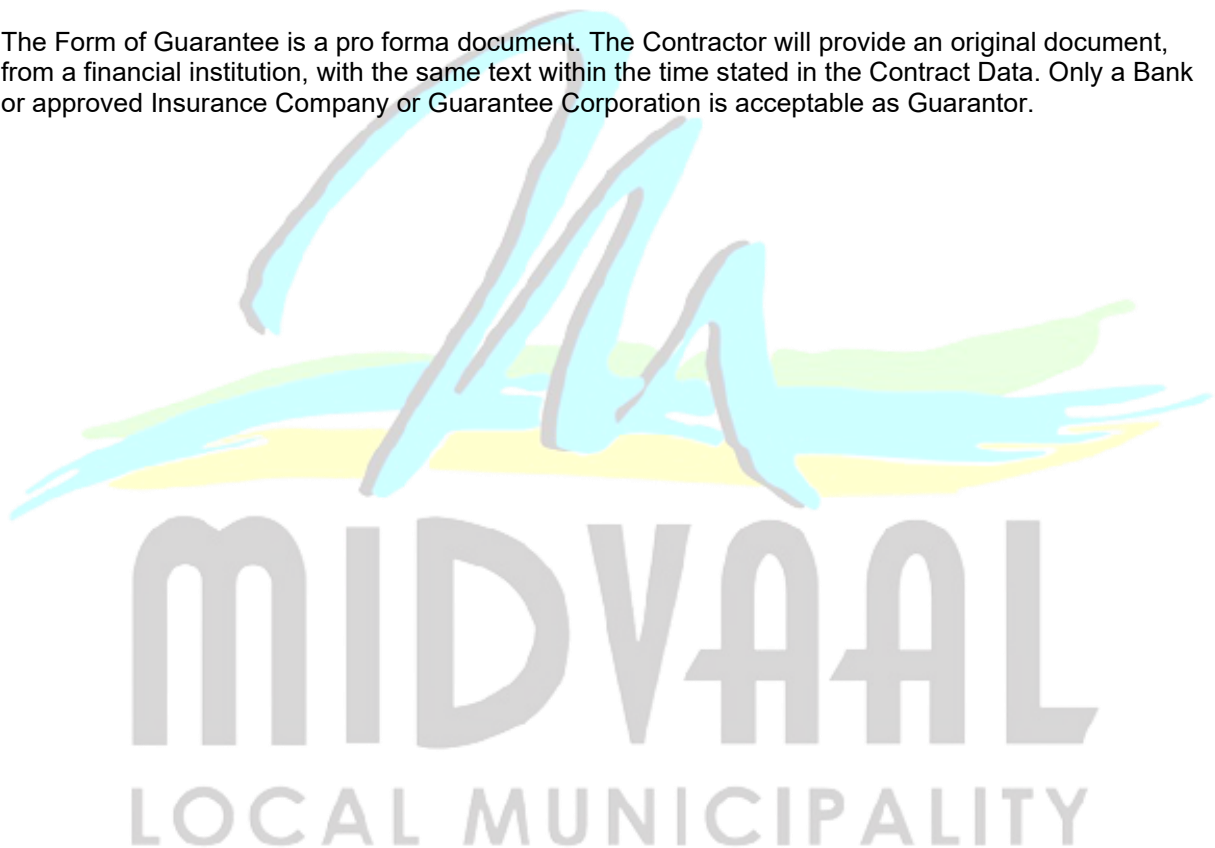
FORMS FOR COMPLETION BY THE CONTRACTOR

THE FOLLOWING FORMS ARE TO BE COMPLETED BY THE CONTRACTOR AFTER THE TENDER HAS BEEN AWARDED TO THE SUCCESSFUL TENDERER

- a) Form of Guarantee
- b) Agreement in terms of the Occupational Health and Safety Act
- c) Occupational Health and Safety Indemnity Undertaking

The forms will be completed by the Contractor who will be instructed to do so in the Form of Acceptance. The completed forms will become part of the Contract.

The Form of Guarantee is a pro forma document. The Contractor will provide an original document, from a financial institution, with the same text within the time stated in the Contract Data. Only a Bank or approved Insurance Company or Guarantee Corporation is acceptable as Guarantor.



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.5.1 Form of Guarantee

TO BE PRINTED ON THE OFFICIAL LETTERHEAD OF THE GUARANTOR.

PERFORMANCE GUARANTEE

Contract No. 8/2/2/465_(2026-2029)

WHEREAS Midvaal Local Municipality (hereinafter referred to as "the Employer" or "beneficiary") entered into a Contract with

(hereinafter called "the Contactor")

on the _____ day of _____, 20____, for the construction of

at _____

AND WHEREAS it is provided by such Contract that the Contractor shall provide The Employer with security by way of a guarantee for the due and faithful fulfillment of such Contract by the Contractor;

AND WHEREAS _____ has/have at the request of the Contractor, agreed to give such guarantee; NOW THEREFORE WE, _____

_____ do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to The Employer under renunciation of the benefits of division and exclusion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the completion date of the works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which The Employer may take under such Contract, or of any modification, variation, alterations of the completion date which The Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by The Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the Guaranteed Sum of _____ (R _____)
6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon our liability hereunder shall cease.
7. We hereby choose our address for the serving of all notices for all purposes arising here from as _____

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

IN WITNESS WHEREOF this guarantee has been executed by us at _____
on this _____ day of _____ 20____.

As witnesses:

1. _____ Signature _____

2. _____ Signature _____

Duly authorized to sign on behalf of _____

Address _____



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.5.2 Health and Safety Contract Between Employer and Contractor In Terms of Section 37(2) Of The Occupational Health and Safety Act No 85 Of 1993

Written agreement between Midvaal Local Municipality (hereinafter referred to as “the

Employer) and _____ (hereinafter referred to as “the mandatory”) as envisaged by Section 37(2) of the Occupational Health and Safety Act, No. 85, of 1993 as amended.

I _____ representing

_____ (mandatory) do hereby acknowledge that

_____ (mandatory) is an employer in its own right and shall be regarded as the employer for purposes of the contract work specified in the body of the principal agreement with duties as prescribed in the Occupational Health and Safety Act, No. 85 of 1993 as amended so as to ensure that all work will be performed or machinery and plant used in accordance with the provisions of the said Act. I furthermore agree to comply with the requirements of the Employer as contained in the Occupational Health and Safety Specification included with the principal agreement and to liaise with the employer should I, for whatever reason, be unable to perform in terms of this agreement.

Signed this _____ day of _____ at _____

Signature on behalf of mandatory _____

Signature on behalf of Employer _____

Compensation Fund Registration No. of mandatory _____

Good Standing Certificate : ☐ yes ☐ no (tick one box)

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.5.3 Health and Safety Contract: General Information

1. The Occupational Health and Safety Act comprises Sections 1 to 50 and all un-repealed regulations promulgated in terms of the former Machinery and Occupational Safety Act No 6 of 1983 as amended, as well as other regulations which may be promulgated in terms of the OHS Act.
2. 'Mandatory' is defined as including an agent, a contractor or a subcontractor for work, but without derogating from his status in his own right as an employer or user of plant and machinery
3. Section 37 of the Occupational Health and Safety Act potentially punishes employers (principals) for the unlawful acts or omissions of mandataries (contractors) save where a written agreement between the parties has been concluded containing arrangements and procedures to ensure compliance with the said Act by the mandatory.
4. All documents attached or referred to in the above agreement form an integral part of the agreement.
5. To perform in terms of this agreement mandataries must be familiar with the relevant provisions of the Act.
6. Mandataries who utilise the services of their own mandataries (subcontractors) are advised to conclude a similar written agreement.
7. Be advised that this agreement places the onus on the mandatory to contact the Employer in the event of inability to perform as per this agreement. The Employer, however, reserves the right to unilaterally take any steps as may be necessary to enforce this agreement.
8. The contractor shall be responsible for the full and proper implementation of the terms and provisions of the Act and its regulations in the area in which the work is to be undertaken by the Contractor.
9. The Contractor shall be responsible for the well-being, in relation to health and safety, of all persons coming upon or into such area in accordance with that legislation, including the implementation of any directives issued by management of the Employer in this respect.
10. The work to be done is _____
11. The area in which the work is to be conducted is _____
12. The Contractor shall familiarise himself with such area and all risks existing thereon and undertakes to report to the representative of the Employer any hazard or risk to health and safety which arises during the contract work in the area concerned and over which the Contractor may have no control. All necessary and appropriate safety / health equipment shall be issued by the Contractor to all persons working on or coming into the area.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.5.3.1 Occupational Health and Safety Indemnity Undertaking

I, the undersigned _____

in my capacity as _____

of the firm _____

1.0 hereby undertake to ensure that I/my firm and/or employees and/or subcontractors and/or his employees -

1.1 comply strictly with the provisions of the Occupational Health and Safety Act of 1993 (as amended) and/or the regulations promulgated in terms thereof, with specific reference to section 37(2) of the said act, as well as any relevant legislation, in the course of the performance/execution of any service and/or work in, to or on any of the Employer's buildings, construction sites and/or premises;

1.2 ensure that consultants and/or visitors comply with any instructions and measures relating to occupational health and safety, as prescribed by the Employer; and

1.3 comply strictly with the statutorily prescribed work systems, operational equipment, machinery and occupational health and safety conditions;

2.0 and as an independent employer and contractor, hereby indemnify, in terms of the above undertakings, the Employer -

2.1 in respect of any costs that I/my firm and/or employees and/or subcontractors and their employees may incur of necessity in compliance with the above undertakings; and

2.2 against any claims that may be instituted against the Employer and/or any liability that the Employer may incur, whether instituted and/or caused by me/my firm's employees, agents, consultants, subcontractors and/or their employees and visitors or the Employer's clients or neighbours in respect of any incidents related to my/my firm's activities and as a result of which the occupational health and safety of the persons involved have been detrimentally affected; and

2.3 against similar claims that I, managers or directors of my firm may have against the Employer and any damages for which I, managers or directors of my firm hold the Employer liable.

3.0 My firm's compensation commissioner number is _____ and I confirm that my firm and its subcontractors' fees have been paid up and obligations in respect of the compensation commissioner have been complied with and further that I shall furnish proof thereof in writing on request.

Employer:		Contractor	
Witness:		Witness:	

Volume	I	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

4.0 I hereby confirm that I have the authority to sign this indemnity undertaking and that the Employer is not obliged to confirm such confirmation.

Signed at _____ this _____ day
of _____

Signature

Capacity

As witnesses:

1 _____
2 _____



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work



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Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

C2 PRICING DATA

T1.6 PRICING INSTRUCTIONS

T1.6.1 GENERAL PREAMBLE TO THE BILL OF QUANTITIES

All items in the Schedule of Rates, except where otherwise specified in Clause 8 of a Standardised Specification or in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title "Civil Engineering Quantities", by the South African Institution of Civil Engineering.

The basis and principles of measurement and payment are described in this section (Pricing Instructions) and Clause 8 of each of the Standardised Specifications for Civil Engineering Construction. The applicable SANS 1200 Standardised Specifications are listed in the Scope of Work, Portion 1: Project Specification. Variations and amendments to the Standardised Specifications are contained in the Scope of Work, Portion 2: Variations and Additions to the Standardised Specifications.

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

The clauses in a specification in which further information regarding the Schedule item may be found are listed in the "Payment Refers" column in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of listed items. Further information and specifications may be found elsewhere in the Contract Documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200G.

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

The quantities set out in the Schedule of Rates are the estimated quantities of the Contract Works, but the Contractor shall be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices. The rates and/or prices to be inserted in the Schedule of Rates are to be the full inclusive prices for the work described under the several items. Such rates and/or prices 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, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out. A price or rate is to be entered against each item in the Schedule of Rates, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.

The units of measurement described in the Schedule of Rates are metric units. Alternatives used 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	P Csum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work**T1.6.3.4 Materials and equipment****T1.6.3.4.1 Materials**

The Employer shall not provide any materials, as this shall be provided by the Contractor and deemed to have been included in the various provided activity rates and prices.

T1.6.3.4.2 Equipment

The Employer shall not provide any works equipment, as this shall be provided by the Contractor and deemed to have been included in the various provided activity rates and prices.

T1.6.3.4.3 Damage to materials provided by the Employer

Where the Contractor or public damage any materials, provided by the Employer, whilst in the care of the Contractor, he shall immediately report such damage, arrange for the replacement and all replacement costs shall be at his expense.

T1.6.3.5 Permits and way-leaves

All associated costs to obtain permits and way-leaves as required for the execution of the works, where such affect other services, shall be deemed to have been included in the scheduled rates for SANS 1200A or SANS 1200AA or SANS 1200AB where pricing provision for such items have been allowed for in the pricing schedules, alternatively it shall be deemed to be included the various scheduled activity rates or prices provided by the Contractor.

T1.6.3.6 Locating existing service

The cost to locate existing services shall be included in the various works activity pricing rates and/or prices, including any excavations required and the provision and use of service detection personnel and equipment.

T1.6.3.7 Confined space

The Contractor shall note that work activities shall be executed within confined spaces and it shall be deemed that allowance has been made in all provided activity pricing rates and/or prices.

T1.6.3.8 Concrete

Descriptions (prices) of concrete work shall be deemed to include the design of concrete mixes and all testing of concrete and materials other than compressive strength testing of concrete samples from concrete being placed in the works (the Contractor shall only be entitled to payment for those samples and compressive strength tests called for by the Engineer or his duly authorized representative and which pass the test requirements), handling and depositing (by hoisting or lowering) concrete in the forms, working and packing concrete around reinforcement, all "construction joints" other than "designated joints" as defined in SANS 1200G which are given separately, shaping tops of components as required and striking off and curing.

Descriptions (prices) of concrete in surface beds cast in panels shall be deemed to include formwork, fillets and the like in forming the panels.

T1.6.3.9 Formwork

Formwork is measured to the net surfaces of concrete to be supported, except at intersections of beams with beams, columns, walls, etc. and tops of columns with slabs, beams, etc. where no deductions have been made and descriptions (prices) shall be deemed to include use and waste, except where the formwork is of a permanent nature or is to be left in, fitting together to all required shapes, all cutting, intersections, cambering where required, holes for rods, bolts, pipes and the like, propping, maintaining, keeping damp whilst the concrete is being deposited and removing of formwork.

Formwork "left in" and permanent formwork shall be deemed to include leaving in formwork, props, etc.

Descriptions (prices) of formwork to soffits shall be deemed to include propping not exceeding 3.5m high unless otherwise described. Descriptions (prices) of formwork to walls and columns shall be deemed to be not exceeding 3.5m high above bearing level unless otherwise described.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

Descriptions (prices) of formwork to soffits of solid slabs shall be deemed to be to slabs not exceeding 300mm thick unless otherwise described.

T1.6.3.10 Smooth formwork

Descriptions (prices) shall be deemed to include for rubbing off all projections at seams etc. after removal of the formwork, making good any defects with 2:1 cement mortar and leaving a smooth surface with all arises slightly rounded, all to the satisfaction of the Engineer or his duly authorized representative.

T1.6.3.11 Reinforcement

Descriptions (prices) for all steel reinforcement to concrete shall be deemed to include cutting and waste, bending, hooked ends, binding at lappings and intersections with annealed wire, all as above described, hoisting or lowering and maintaining in position whilst the concrete is being deposited and cover blocks and spacers in accordance with the relevant SANS Codes of Practice.

Descriptions (prices) of standard fabric reinforcement as included in Table 1 of SANS 1024 shall be deemed to include 300mm wide laps.

The mass of binding wire is not included in the mass of the reinforcement and the cost thereof shall be deemed to be included in the prices for the reinforcement.

T1.6.3.12 Movement joints

Descriptions (prices) of movement joints shall be deemed to include formwork.

T1.6.3.13 Cellular concrete

Descriptions (prices) for grading shall be deemed to include for striking the bottom layer to falls, the curing and finishing smooth of top layer ready to receive waterproofing. Samples shall be taken from the bottom layer of concrete at the rate of 3 samples for every 10m³ of concrete cast. In no sample shall the density of the concrete vary more than (plus) 80kg/m³. Samples shall be made in standard concrete cube moulds.

T1.6.3.14 Precast concrete

Descriptions (prices) of precast concrete shall be deemed to include reinforcement required for manufacturing, handling and erection purposes, steel rod or wire loop hooks and/or mortices for Lewis bolts required for handling and transporting, any necessary temporary propping and strutting, bedding, jointing and pointing.

T1.6.3.15 Plastering and in-situ finishes

Descriptions (prices) of plaster and other in-situ finishes shall be deemed to include the necessary preparatory work and working around pipes, balusters, etc. Plastering described as "on walls" is on brick walls or block walls unless otherwise stated and shall include plaster on concrete columns, beams and lintels flush with the face of the wall.

Descriptions (prices) of mouldings shall be deemed to include dubbing out where necessary and ends, meters and intersections when the girth of the moulding does not exceed 300 mm.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work**T1.6.3.16 Testing**

The cost of testing of the ordered Works shall be included the various applicable Works items. In particular those:

- clearly intended by or provided for in the specifications.
- involving testing or tests to ensure that the design of the whole of the Works or any part of the Works is appropriate for the purpose which it was intended to fulfil.

No additional or separate payment for testing shall be entertained by the Employer.

T1.6.3.17 Cost of samples

All samples shall be supplied by the Contractor at his own cost unless the supply thereof is clearly intended in the specifications or Bill of Quantities to be at the cost of the Employer. Payment shall not be made for samples which do not comply with the specifications.

T1.6.3.18 Payment ONLY for works completed

The Contractor shall note that payment shall only be made for Works activities successfully (delivering the end result) executed, complying with the quality requirements and provided to the Engineer or his duly authorized representative.

T1.6.3.19 Payment for the Labour-Intensive Component of the Works

Those parts of the works to be constructed using labour-intensive methods are marked in the bill of quantities with the letters LI either in a separate column or as a prefix or suffix 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 deviation from 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 over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works. Where minimum labour intensity is specified in the design, the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity targets.

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

T1.6.3.20 Linkage of Payment for Labour-Intensive Component of Works to Submission of Project Data

The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframes stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted.

The following information shall be maintained on site and submitted in electronic/hard copy formats:

Certified ID copies of all locally employed labour
Signed Contracts between the employer and the EPWP Participants
Attendance Registers for the EPWP Participants
Proof of Payment of EPWP Employees
Monthly Reporting Template as per EPWP requirements

T1.6.4 Contractual Requirements**Unit: Sum**

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

The first instalment, which is 40% of the sum, will be paid when the Contractor has fulfilled all his obligations to date under this specification, the General Conditions of Contract and the Special Conditions of Contract, and when the value of work certified for payment, excluding materials on site and payments for preliminary and general items, is equal to not less than 5% of the total value of the work listed in the Schedule of Quantities.

The second instalment, which is 40% of the sum, will be paid when the Contractor has fulfilled all his obligations to date under this specification, the General Conditions of Contract and the Special Conditions of Contract, and when the value of work certified for payment, excluding materials on site and payments for preliminary and general items, is equal to not less than 50% of the total value of the work listed in the Schedule of Quantities.

The final payment, which is 20% of the sum, will be made when the works have been certified as completed and the Contractor has fulfilled all his obligations to date under this Specification, the General Conditions of Contract and the Special Conditions of Contract.

T1.6.5 Supervision for Duration of Construction

Unit: Monthly

The sum shall cover the costs of on-site supervision and such local administration as the Contractor considers necessary for the proper completion of the Works (regardless of the number of works orders issued), and shall cover the cost of the salaries, wages and allowances paid to the site agent, general foreman, section foremen (where applicable), site surveyors, timekeepers, assistants and other site supervisory staff, and of transport incurred in connection with such staff.

This rate shall include all works to be completed during shutdown periods, which may include working outside normal working hours.

It should be noted that this rate will only be paid during periods where works orders have been issued and not during periods of no works being executed.

T1.6.6 Occupational Health and safety

No payment shall be applicable where equipment is not provided and services are not rendered in terms of the approved Health and Safety Plan. Additionally, the Contractor shall also be penalised in terms of Clause (30) of the Occupational Health and Safety Act 183 (1993), Construction Regulations (2003).

T1.6.6.1 Compilation of health and safety plan

Unit: Sum

The rate shall include the complete cost for the provision of resources (human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to compile a Health and Safety Plan. Remuneration shall be a lump sum.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.6.2 Implementation of health and safety plan**Unit: Sum**

The rate shall include the complete cost for the provision of resources (including human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to fully comply with the implementation and maintenance of the Health and Safety Plan. Remuneration shall be on a monthly basis for services rendered, by dividing the total sum tendered by the construction duration.

T1.6.6.3 Safety officer/s**Unit: Sum**

The rate shall include all cost associated with the appointment of the safety officer(s), whose responsibility it is to ensure that all activities required fully comply with the Health and Safety Plan as per the Health and Safety Specifications contained in Volume 2 for the duration of the Contract. The rate shall be on a monthly basis for services rendered, by dividing the total sum tendered by the construction duration.

NOTA BENE: The Contractor shall clearly state the number of Health and Safety officers in the provided space in the Bill of Quantities that he has allowed for in his price. Where no number is provided the Employer shall assume that adequate provision, minimum 1 per site, has been made to implement the provided Health and Safety Plan successfully.

T1.6.7 EMP implementation and maintenance**Unit: Sum**

The rate shall include the complete cost for the provision of resources (human and equipment), communication, transportation and travelling, documentation of activities and reporting activities required to fully comply with the implementation and maintenance of the EMP for the duration of the Contract. Remuneration shall be on a monthly basis for services rendered, by dividing the total sum tendered by the construction duration.

T1.6.8 Additional fittings and specials provision and installation**Unit: P.Sum**

On the Engineer's instruction, the Contractor shall be required to provide a quotation for the complete provision of additional fittings and specials not allowed for elsewhere in this document as part of this Contract, based on the minimum specification provided elsewhere in this Contract documentation. A provisional sum is provided here, but the unit of measurement shall be based on the various items required.

T1.6.9 Removal and Temporary Storage**T1.6.9.1 Saw cut, remove and dispose of asphalt, reinforced concrete and unreinforced concrete and stone crush base up to a specified thickness****Unit: m²**

The rate shall cover the cost of sawing, cutting, removal, disposal and stone crushing including labour, transportation, commissioning, environmental management, health and safety, and submitting a record of size and location of works for each thickness to the Engineer.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.9.2 Remove and temporarily store paving block units**Unit: m²**

The rate shall include the complete (labour, material, plant, equipment and travelling) cost for the removal, transportation and delivery to the storage area of all removed paving block units of various sizes.

The Engineer or his duly authorised representative shall only approve payment for ordered Works, where the Contractor provides proof that the removed paving block units have been stored in the agreed location.

Where the Contractor fails to return any removed paving block units, on completion of the ordered Works, he shall not be paid for the entire ordered Works at the associated property.

T1.6.9.3 Remove and temporarily store grass sods**Unit: m²**

The rate shall include the complete (labour, material, plant, equipment and travelling) cost for the removal, transportation and delivery to the storage area of all removed grass sods.

The Engineer or his duly authorised representative shall only approve payment for ordered Works, where the Contractor provides proof that the removed grass sods have been stored in the agreed location.

Where the Contractor fails to return any removed grass sods, on completion of the ordered Works, he shall not be paid for the entire ordered Works at the associated property.

T1.6.9.4 Remove and temporarily store all types of kerbs**Unit: m²**

The rate shall include the complete (labour, material, plant, equipment and travelling) cost for the removal, transportation and delivery to the storage area of all types of kerbs.

The Engineer or his duly authorised representative shall only approve payment for ordered Works, where the Contractor provides proof that the removed kerbs have been stored in the agreed location.

Where the Contractor fails to return any removed kerbs, on completion of the ordered Works, he shall not be paid for the entire ordered Works at the associated property.

T1.6.10 Shore trench opposite structure or service**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of shoring the trenches opposite structures or services as required during construction including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.11 Reinstatement of road crossings, including the supply and installation of asphalt for reinstatement of road crossings, 300mm thick
Unit: m²

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of reinstatement of road crossings including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. The rate should also include the complete supply and transportation costs of the asphalt.

T1.6.12 Reinstatements
T1.6.12.1 Reinstatement of unreinforced concrete, complete
Unit: m²

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of reinstatement of unreinforced concrete including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. The rate should also include the complete supply and transportation costs of the concrete.

T1.6.12.2 Reinstatement of paving block units, complete
Unit: m²

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of reinstatement of paving block units including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. The rate should also include the complete supply and transportation costs of the paving block units.

T1.6.12.3 Reinstatement of paving grass sods, complete
Unit: m²

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of reinstatement of grass sods including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. The rate should also include the complete supply and transportation costs of the grass sods.

T1.6.12.4 Reinstatement of all types of kerbing, complete
Unit: m

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of reinstatement of all types of kerbing including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. The rate should also include the complete supply and transportation costs of the kerbing.

T1.6.12.5 Topsoiling including trimming, filling, topsoiling and levelling of verges, removal of debris, rocks etc. using stockpiled material
Unit: m²

The rate shall include the complete (labour, qualified operators, material, plant, equipment and transport) cost of topsoiling including trimming, filling, topsoiling and levelling of verges, removal of debris, rocks etc. using stockpiled material.

T1.6.13 Reservoir Inspections
T1.6.13.1 Diving
Unit: hr

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

The rate shall include the complete cost associated with allowing scuba divers to assess the reservoir condition under pressure. Including, all gear requirements, access to the reservoir, inspection reports, video/photographic evidence (if applicable), in addition to the sterilization of the reservoir water thereafter. The team to ensure no foreign objects are left within the reservoir after the inspection has been completed.

T1.6.13.2 Coring**Unit: per mm depth**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and transport) associated with completing concrete core drills of the reservoir to various diameters.

T1.6.14 Cleaning Reservoir**T1.6.14.1 Water Jetting****Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of completing water jetting inside reservoirs including commissioning, environmental management, and health and safety requirements. The unit rate has been based on estimate surface area to be cleaned.

T1.6.14.2 Disinfection by use of Chlorine Wash**Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of providing and completing disinfection of reservoirs including environmental management and health and safety requirements. The unit rate has been based on estimate surface area to be cleaned.

T1.6.15 Preparation of Reservoir**T1.6.15.1 Draining and Drying of Reservoir****Unit: Sum**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of draining and drying reservoirs of various sizes to allow for repair works including, environmental management and health and safety requirements.

T1.6.15.2 Installation of Temporary By-pass**Unit: P.Sum**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of providing a temporary by-pass on reservoirs of various sizes to allow for repair works including, environmental management and health and safety requirements. It should be noted that the rate must include all required fittings.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work**T1.6.15.3 Scaffolding****Unit: Sum**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of providing scaffolding of various heights to allow for repair works including, environmental management and health and safety requirements. It should be noted that the scaffolding is deemed to be portal and is only an allowance to access reservoirs for the required repair (with internally or externally to the reservoir). The scaffolding should be able to support a minimum of 2 workers at any given time.

T1.6.16 General Repair**T1.6.16.1 Underwater plugging****Unit: No**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of completing underwater plugging repairs including, all associated materials, environmental management and health and safety requirements

T1.6.16.2 Hypalon Bandage**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing Sika Hypalon bandages set to concrete width and installed to supplier specifications including, environmental management and health and safety requirements

T1.6.16.3 Penetron Surface Treatment**Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing Penetron Surface treatment including, environmental management and health and safety requirements

T1.6.16.4 Chase Crack**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of chasing concrete cracks to a wide of 40mm and 40mm deep including, environmental management and health and safety requirements

T1.6.16.5 Application of Penetron Penebar**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing penetron penebar (SW-45) including, environmental management and health and safety requirements

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work**T1.6.16.6 Spalling Repair****Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of completing a spalling repair as per the specifications including, environmental management and health and safety requirements

T1.6.16.7 Supply of Bolts**Unit: No**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing the required bolts including, environmental management and health and safety requirements

T1.6.16.8 Access Ladders**Unit: No**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing access ladders to the required specifications including, environmental management and health and safety requirements

T1.6.16.9 Hand Rail**Unit: No**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing hand rails to the required specifications including, environmental management and health and safety requirements

T1.6.16.10 Concrete Repair**Unit: m³**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing various concrete strengths for repair works including, environmental management and health and safety requirements

T1.6.16.11 Concrete Test Cubes**Unit: No.**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of providing concrete test cubes (sets of 6)

T1.6.16.12 Reinforcement**Unit: t**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing high tensile steel for repair works including, environmental management and health and safety requirements

T1.6.16.13 Unformed Surface Finishes**Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing unformed surface finishes including, environmental management and health and safety requirements

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work**T1.6.16.14 Formwork****Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of providing and installing formwork as required for repair including, environmental management and health and safety requirements

T1.6.16.15 Brickwork**Unit: m²**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing brickwork for repair works including, environmental management and health and safety requirements

T1.6.16.16 Saw cut joints**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of completing a saw cut joint (3mm wide and 4mm deep) including, environmental management and health and safety requirements

T1.6.16.17 Joint Sealants**Unit: m³**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supply and installation of joint sealants allow for repair works including, environmental management and health and safety requirements

T1.6.16.18 Ream Joints**Unit: No.**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of reaming joints to various sizes for repair works including, environmental management and health and safety requirements

T1.6.16.19 High viscosity epoxy crack filler**Unit: m³**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing high viscosity epoxy crack filler to allow for repair works including, environmental management and health and safety requirements

T1.6.17 Roof Repair**Unit: m²**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing the various items to allow for repair works including, environmental management and health and safety requirements.

T1.6.18 Rubber Gaskets**Unit: No.**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing rubber gaskets as required to allow for repair works including, environmental management and health and safety requirements.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.19 Replace 1220 x 1220 Steel Module**Unit: No.**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing of steel tank modules including, environmental management and health and safety requirements.

T1.6.20 Corrosion Protection**Unit: m²**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing required Corrosion Protection (Paint) in terms of the specifications (see item PS2.1.2) including, environmental management and health and safety requirements.

T1.6.21 Security Lighting Installation**Unit: No.**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing security lighting in terms of the specifications including, environmental management and health and safety requirements.

T1.6.22 Galvanised Steel Poles**Unit: No.**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing galvanised steel poles in terms of the specifications including, environmental management and health and safety requirements.

T1.6.23 Miscellaneous Items**Unit: Various**

The rates shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing various items in terms of the specifications including, environmental management and health and safety requirements.

T1.6.24 Removing Debris**Unit: No.**

The rate shall include the complete (labour, material and equipment) cost for the removal and disposal of all debris from manholes and chambers of various sizes and shapes for a distance of 0.5m within the entering and existing conduit; Including materials for cleaning and disposal, safety equipment (including that required for the Engineer or his duly authorised representative's sole use) and traffic accommodation equipment.

T1.6.25 Locating and removing chambers**T1.6.25.1 Locating and exposing existing fittings****Unit: No**

NOTA BENE: The Contractor shall note that unreasonable claims in this regard shall not be entertained by the Engineer or his duly authorised representative, where the following shall constitute unreasonable claims:

- Locating:
 - where the fitting manhole or chamber is partially hidden; or
 - where the fitting manhole or chamber is temporarily hidden, i.e. parked vehicle.
- Exposing:

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

- *minimal effort is required to expose the fitting manhole or chamber, i.e minimal debris or vegetation removal; or does not necessitate off site disposal of the removed debris or vegetation.*

Payment shall be per manhole or chamber, for various size ranges.

Unit: No.

The rate shall include the complete (labour, qualified operators, material, plant and equipment) cost for successfully locating or exposing a fitting manhole or chamber or the fitting itself. Including provision and operation of all equipment and accessories, removing and disposing all debris or vegetation (including but not limited to topsoil, soil, grass, vegetation, paving blocks, builder's rubble, and refuse), safety equipment (including that required for the Engineer or his duly authorised representative's sole use), traffic accommodation and reporting.

T1.6.25.2 Remove and dispose of redundant or damaged chambers

Unit: No

The rate shall include the complete (labour, material, plant and equipment) cost for the successful removal and disposal of a fitting manhole or chamber, including provision and operation of all equipment and accessories, safety equipment (including that required for the Engineer or his duly authorised representative's sole use) and traffic accommodation.

T1.6.26 Supply and construct chambers

The rate shall cover the complete (labour, materials, plant and equipment) cost of supplying the brickwork, concrete work, plaster work and other materials required for the successful repair of damaged chambers (either previously damaged or during installation of new cover and frame).

T1.6.26.1 Brickwork

Unit: m²

T1.6.26.2 Plastering

Unit: m²

T1.6.26.3 Concrete

Unit: m³

T1.6.26.4 Reinforcement

Unit: t

T1.6.26.5 Formwork

Unit: m²

T1.6.26.6 Lockable Manhole covers & Frame

Unit: No.

T1.6.26.1 Lockable Manhole covers & Frame (specified)

Unit: No.

T1.6.26.1 Step Irons

Unit: No.

T1.6.26.1 Cat Ladder

Unit: No.

T1.6.26.2 Sump

Unit: No.

T1.6.26.3 Sump Pump

Unit: No.

T1.6.27 Relocation of existing fittings

Unit: No

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of the relocation of existing fittings as required during construction including cutting, threading, jointing (including new washers and gaskets at the joints), testing (including testing in terms SANS 1200LF of sub-clause 7.3.2), commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed sizes and fitting types.

T1.6.28 Anchor/thrust blocks and pedestals

Unit: No

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost for supply and installations of pedestals, anchors/thrust blocks as per standard drawings.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.29 Provision and Installation of meters**Unit: No.****NOTA BENE:** All meter types must be specified

The rate shall cover the cost of supplying, handling and installing a meter (for a secure, leak-free connection), additional pipe material as required, labour, transportation, cutting, threading, jointing (including new washers and gaskets at the joints), testing (including testing in terms SANS 1200LF of sub-clause 7.3.2), commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed sizes. If applicable (i.e. Magflow, insertion meters etc.), associated remote converters should be completely covered in the rate.

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant Midvaal Local Municipality have not been arranged timeously in order to facilitate installation of meters. If materials fail to meet specifications it will be for the contractor's expense to rectify.

T1.6.30 Converters (for various meter types)**Unit: No.****NOTA BENE:** All meter types must be specified

The rate shall cover the cost of supplying, handling and installing a converter, additional pipe material as required, labour, transportation, cutting, threading, jointing (including new washers and gaskets at the joints), testing, commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed types.

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant Midvaal Local Municipality officials have not been arranged timeously in order to facilitate installation of meters.

T1.6.31 Removal and Transport of existing meters/fittings of various diameters**Unit: No**

The rate shall include the complete (labour, material, plant, equipment and travelling) cost for the transportation and delivery to the Ffennel Road Depot of all removed meters and/or fittings of various diameters.

T1.6.32 Supply and Installation of Valves and Specials**Unit: No.**

The rate shall cover the cost of supplying, handling and installing a valves and specials, including labour, transportation, cutting, jointing, testing (including testing in terms SANS 1200LF of sub-clause 7.3.2), commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed sizes.

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant Midvaal Local Municipality officials have not been arranged timeously in order to facilitate installation of valves and specials. If materials fail to meet specifications it will be for the contractor's expense to rectify.

T1.6.33 Supply and Installation of Pipework**Unit: No**

The rate shall cover the cost of supplying, handling and installing all additional pipe work including the labour, transportation, cutting, jointing, testing (including testing in terms of SANS 1200LF of sub-clause 7.3.2), commissioning, environmental management, health and safety and submitting a record of installations to the Engineer for various listed sizes and lengths.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant Midvaal Local Municipality officials have not been arranged timeously in order to facilitate installation of pipework. All pipework must be approved prior to installation. If materials fail to meet specifications it will be for the contractor's expense to rectify.

T1.6.34 Weld-On Flanges**Unit: No.**

The rate shall cover the cost of supplying, handling, welding and installing flanges, including labour, transportation, cutting, jointing, commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed sizes.

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant Midvaal Local Municipality officials have not been arranged timeously in order to facilitate installation of weld-on flanges.

T1.6.35 Encasing Joints and/or Pipe**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) for encasing required joints.

T1.6.36 Connecting to Existing pipes**Unit: No**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of exposing the existing water main at the connection, isolating the appropriate section of pipe, cutting into the existing pipe, repairs to the lining and coating of the steel pipe (when applicable), and dewatering. Thereafter the cost of tie-ins, as per the provision and installation of the coupling listed separately. The rate shall cover a range of pipe diameters (250mm to 900mm).

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant Midvaal Local Municipality officials have not been arranged timeously in order to facilitate tie-ins.

T1.6.37 Making good existing pipe coating**Unit: No**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of repairs to the lining and coating of the steel pipe (when applicable). The rate shall cover a range of pipe diameters (250mm to 900mm).

T1.6.38 Supply Steel Split Collars on Steel Pipes**Unit: No**

In the event that the existing pipe is damaged or brittle from age, steel collars will be welded onto the existing pipe to improve the structural integrity thereof. This will only be completed on instruction by the Engineer or his Duly Authorised Representative.

The rate shall cover the cost of supplying, handling and installing a steel collar (for a secure, leak-free connection), labour, transportation, cutting, threading, welding, testing (including testing in terms SANS 1200LF of sub-clause 7.3.2), commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed sizes.

T1.6.39 CCTV surveys: N/A**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant and equipment) cost for the successful survey of sewer conduits in manhole lengths for various conduit sizes (all shapes) by means of CCTV cameras. Including provision and operation of all CCTV camera equipment and accessories, regular calibration of equipment, all the required testing equipment (including that required

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

for the Engineer or his duly authorised representative's sole use), safety equipment (including that required for the Engineer or his duly authorised representative's sole use), traffic accommodation equipment, conduit conditional grading, video recordings, video prints, photographs, card-index file(s) and reporting.



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.40 Cathodic Protection: N/A**Unit: No.**

Design: The rate shall include the design of cathodic protection according to relevant standards.

Installation: The rate shall include the complete (design, labour, qualified operators, material, plant, equipment and travelling) cost of installation of the cathodic protection.

Coating/Lining repair requirements - When cut-outs and or welding on any steel water mains occur, the contractor must ensure that the coating and lining damage is reduced as far as possible and that any damage that may occur is made good prior to the installation of the water meter. The relevant Material Data Sheets of the material to be used and Method Statements for the making good of the damaged coating and lining must be submitted to the JW Corrosion Engineer for approval prior to any meter installations on the project. This item must be factored in to your price submission as no additional funds will be made available to carry out this activity.

Specialist Review and Quality Assurance and Quality Control (QAQC)- Any design and installation should be approved by a specialist and/or the engineer. Any repairs to the coating and or lining of the steel bulk mains must be signed off by the JW Corrosion & Coating Engineer or his duly authorised representative prior to the meter being signed-off by the engineer.

T1.6.41 Earthing Protection: N/A

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of installation of all earthing components as per the various specified items.

Contractors will be required to submit a description of the proposed system.

T1.6.42 Insulating Bolts Only**Unit: No.**

The size of bolts should be specified. The rate shall cover the cost of supplying, handling and installing insulating bolts, including labour, transportation, cutting, jointing, testing, commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer for various listed sizes.

T1.6.43 Taking Down Existing Fences: N/A**Unit: m.**

The rate shall cover the cost of taking down the fences, coiling wire, sorting and stacking all material at sites indicated by the Engineer and the cost of loading, transporting, and offloading such materials (including gates).

T1.6.44 Supply and installation of fencing :N/A**Unit: m**

The rate shall cover the cost of supplying, handling and installing concrete palisade fencing, including labour, transportation, commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer.

The rate shall cover the cost of supplying, handling and installing ClearVu fencing, including labour, transportation, commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

T1.6.45 Repair Existing fencing**Unit: m**

The rate shall cover the cost of supplying, handling of all materials required to make the necessary repairs, including labour, transportation, commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer.

T1.6.46 Equipment Requirements**Unit: Various**

The rate shall include the cost to supply and maintain the required equipment, and associated consumables.

T1.6.47 Personal Protective Equipment**Unit: No.**

The rate shall include the cost to provide all the required protective equipment to each labourer. Labourers have been marked as EPWP labourers and therefore all PPE must be branded with the required EPWP logos

T1.6.48 Trenching**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of trenching as required including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. Soil types should be specified.

Note – this item is only applicable to the trenching related to sleeving requirements.

T1.6.49 Sleeving**Unit: m**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of sleeving as required including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. Material and size should be specified.

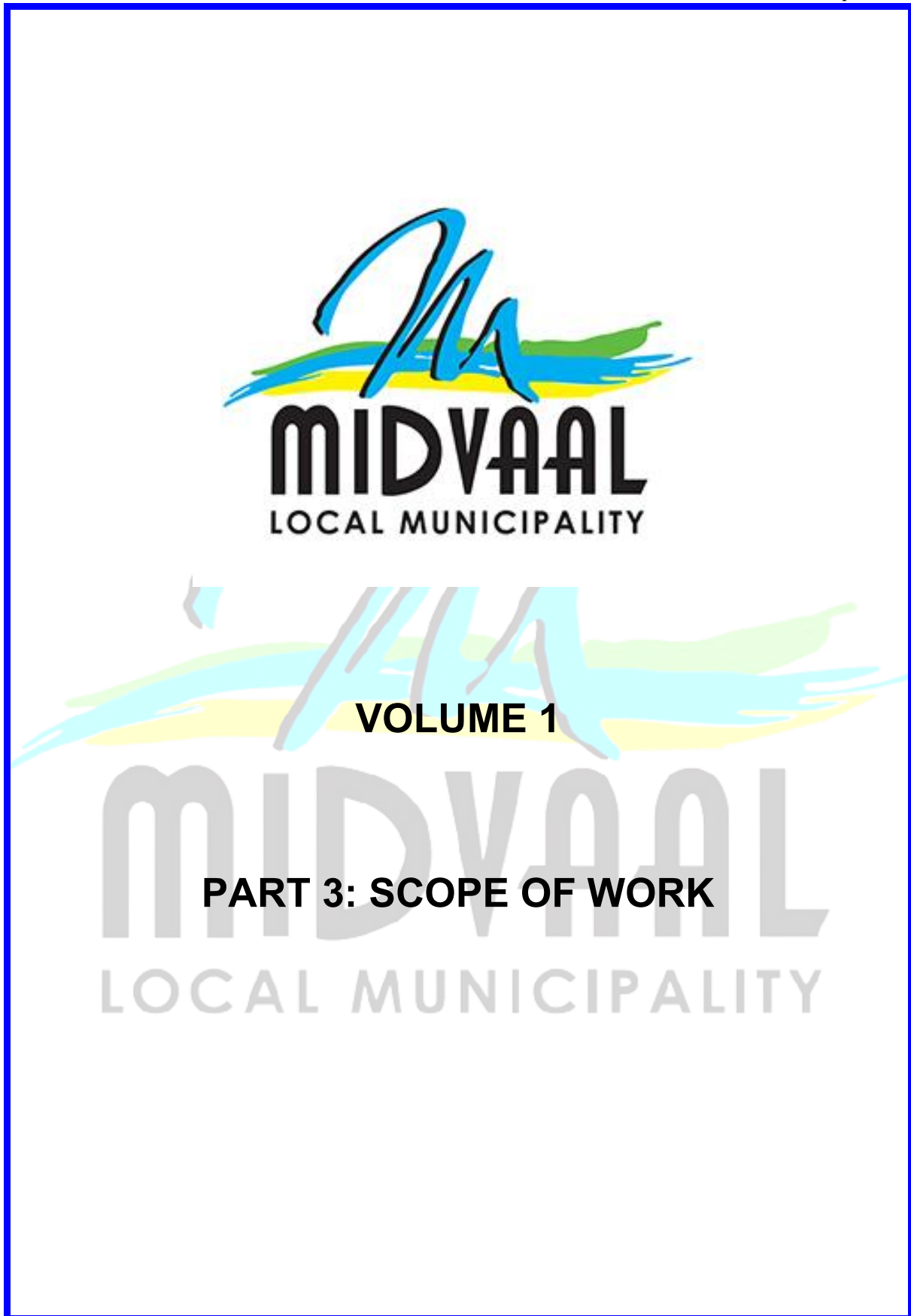
T1.6.50 Inspection Boxes**Unit: No.**

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of supplying and installing inspection boxes including commissioning, environmental management, health and safety, and submitting a record of installations to the Engineer. Material and size should be specified.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

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Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

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Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

C3 SCOPE OF WORK

GENERAL

This section specifies and describes the supplies, services and engineering and construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract work is to be performed.

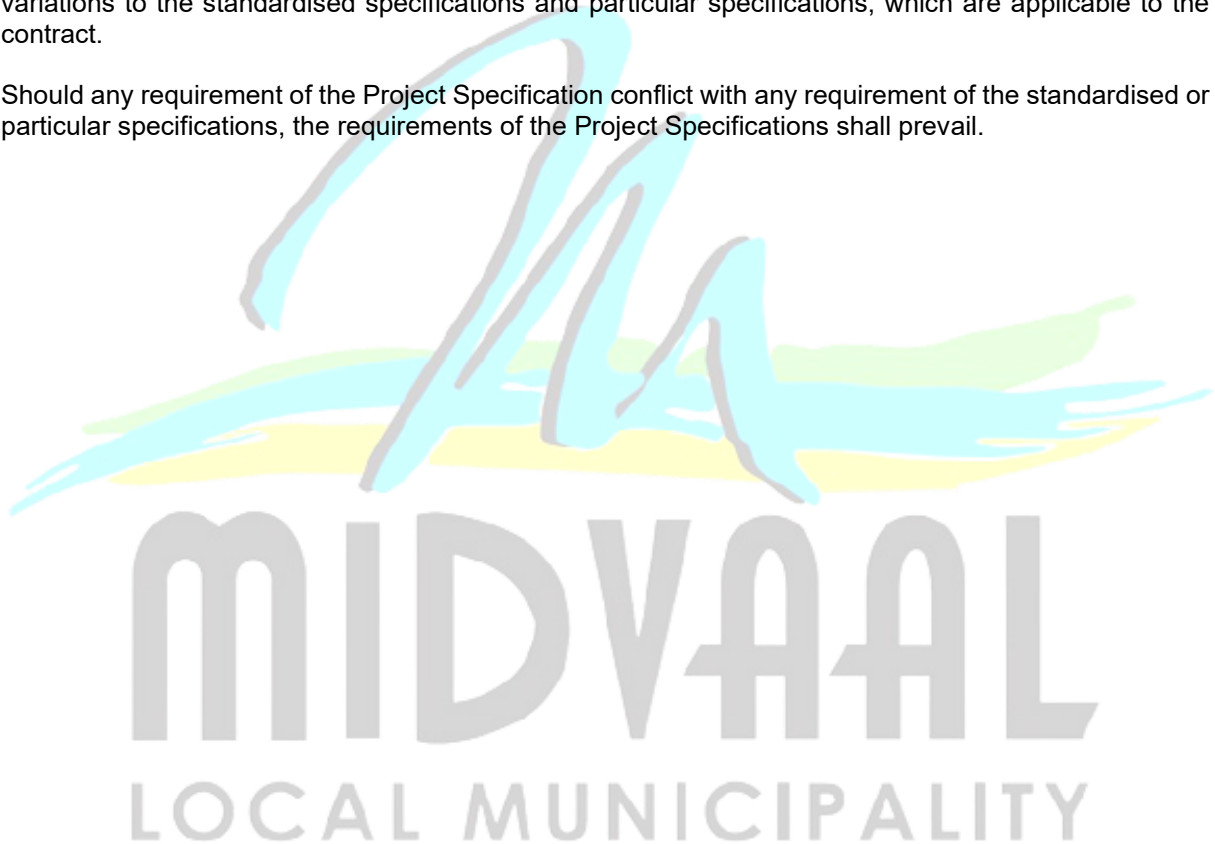
SCOPE

The Scope of the Work is set out in two portions:

Portion 1: PROJECT SPECIFICATION covers a general description of the project, the facilities available and the requirements to be met.

Portion 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS covers variations to the standardised specifications and particular specifications, which are applicable to the contract.

Should any requirement of the Project Specification conflict with any requirement of the standardised or particular specifications, the requirements of the Project Specifications shall prevail.



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

DEFINITIONS

For the purpose of this Contract the following shall have the associated meaning:

- a) Unless inconsistent with the context, an expression which denotes:
 - i) any gender includes the other genders;
 - ii) a natural person includes a juristic person and vice versa; and
 - iii) the singular includes the plural and vice versa.
- b) '**Service Provider**' shall mean either a consultant or contractor appointed to provide a particular service, i.e. investigations, design, labour provision and/or construction.



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

ABBREVIATIONS

For the purpose of this Contract the following abbreviations shall have the associated meaning:

ASTM	: American Society for Testing and Materials
BEE	: Black Economic Empowerment
BS	: British Standard
CCD	: Charge-coupled Device
CD	: Compact Disk
CE	: Civil Engineering Works
CIDB	: Construction Industry Development Board
CLO	: Community Liaison Officer
COP	: Code of Practice for Work within the Road Reserve
DS	: Downstream
DVD	: Digital Versatile Disk
ECSA	: Engineering Council of South Africa
EDA	: Enterprise Declaration Affidavit
EMP	: Environmental Management Plan
EPWP	: Expanded Public Works Programme
Ext	: Extension
GCC	: General Conditions of Contract
GIS	: Geographic Information System
ISO	: International Organisation for Standardisation
Kl	: Kilolitres
l	: Litres
LOS	: Level of Service
MI	: Megalitres
Mod AASHTO	: Modified American Association of State Highway and Transportation Officials
PTFE	: Polytetrafluoroethylene
SABS	: South African Bureau of Standards

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Scope of Work

SANS	: South African National Standard
SBR	: Strene-butadiene Rubber
SD	: Standard Definition
SDR	: Standard Dimension Ratio
SOP	: Standard Operating Procedure
WRC	: Water Research Commission
uPVC	: Unplasticised Polyvinyl Chloride
US	: Upstream
VAT	: Value Added Tax



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

PORTION 1: PROJECT SPECIFICATION

T1.7 DESCRIPTION OF THE WORKS

T1.7.1 Employer's Objectives

The Employer's objective, is to ensure the effective, efficient and sustainable water supply within its area of jurisdiction.

Large volumes of water are often lost at reservoir sites and associated network fittings. Therefore, the objective of the project is to repair reservoir sites, improve reservoir security, install associated cathodic protection, install telemetry monitoring equipment and allow for general maintenance of reservoir sites. This will ensure that quality water demand and conservation management is practiced, by reducing associated water losses as a result of lack of reservoir maintenance.

T1.7.2 Overview of the Works

The project requires (at a minimum) the implementation of the following items:

- Cleaning of all sediment and residue within reservoirs
- Sealing of reservoirs
- Structural re-works
- Installation of non-return or isolation valves
- Installation of flow meters (covering various installation types)
- Health and Safety requirements
 - Ladders and safety "cages"
 - Step irons and ladders in chambers
 - Railings
 - Covers and cover slabs.
- Recoating of pipework
- Pipeline leak repairs within the reservoir complex

T1.7.3 Extent of the Works

The Contractor shall be required to:

- Replace faulty, fittings including valves and bulk meters and associated convertors;
- Make good any coating and/or lining damage on steel water mains during installation of the bulk meters, valves and/or strainers, or identified elsewhere on a steel water main;
- Install lockable covers or fencing in order to protect Midvaal equipment from theft;
- Repair or seal leaking reservoirs.
- Cleaning reservoirs as required;
- Make good any damaged chambers; and
- Complete general maintenance on reservoir sites.

The requirements per site shall be issued to the contractor by means of a works order or formal instruction.

Each instruction or works order will be consider as a single package of work to be completed within a maximum 6-month period. Contractors can be issued with multi works orders at any given time due to the nature of the contract being structured as an as-and-when contract.

It should further be noted that the Employer cannot guarantee that works orders will be issued but will be based on funding availability and identified work requirements. Therefore, the Employer cannot be held liable in the event that no works are issued for an extended period of time.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.7.4 Location of the Works

The works are located within the Employer's supply and operational area. The exact location of the works is included under Part 4: Site Information and will be identified on each particular Works Order.

T1.7.5 Temporary Works

Temporary works shall:

- include the works required to locate, verify and protect existing services within the works area.
- include the works required to confirm pipe diameters and material where fitting installations and replacements are proposed;
- be such to ensure no or limited interruption to vehicular and pedestrian traffic; and
- be such as to allow the continued or uninterrupted supply of water to and from the reservoirs and/or pump stations.

The Contractor shall further note that no stockpiling of materials, plant, excavated material or any other construction related infrastructure shall NOT be allowed in locations that may interfere with the operations of the Employer and the public in general.

T1.8 ENGINEERING**T1.8.1 Employer's Design**

The following provides an overview of the generic requirements in terms of the Scope of Work.

T1.8.1.1 Concrete spalling repair procedure**Substrate preparation**

- All suspect spalling areas that have degraded due to carbonation and chloride ingress will be clearly marked out in rectangular repair areas. All reinforcing bars with concrete cover less than 10mm must all be treated as if spalling is present.
- Saw cut concrete within the outlines to a minimum depth of 10mm, ensuring that all cuts are perpendicular to the surface and avoid feather edges at all times. Side edges to be roughened to create adequate bond.
- Remove weak concrete around the full circumference of the reinforcing bar with a minimum clearance of 15mm. Extend the removal of concrete around the bar at least 50mm beyond the point of corrosion.
- All defective concrete to be completely removed.
- Remove all rust, dirt, grit, grease, oil and foreign matter from the rebar.
- Corroded steel should be grid blasted to remove all rust. Thereafter it must be high pressure washed with clean potable water (up to 18 MPa pressure) to remove debris and residual contamination.

Sika MonoTop-610 (or similarly approved) - Bonding slurry and anti-corrosion reinforcement primer

- The prepared substrate should be thoroughly soaked with clean water until uniformly saturated, leaving no saturated water.
- The substrate temperature must be above 5°C and below 30°C
- The Ambient temperature must be above 5°C and below 35°C
- The substrate humidity must be less than 10%.
- Mix the Sika MonoTop-610 according to the supplier's specifications
- Reinforcement primer; Apply two coats of approximately 1mm thickness each, using a stiff brush or suitable spray equipment onto the cleaned reinforcing steel. Allow each layer to

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

reach initial set – up to 5 hours between coats depending on conditions. Allow at least 24 hours curing after applying the second coat before applying the repair mortar.

- Concrete bonding bridge; Apply on the pre-saturated concrete substrate a coat of not less than 0.5mm thick by brush, roller or suitable spraying equipment. To achieve a good bond with the substrate, ensure that the whole area is fully coated. Work the bonding slurry well into the substrate. Repair mortars must be applied wet on wet to the bonding slurry.

Sika MonoTop-612 (or similarly approved) – Wet sprayed / hand placed fibre reinforced repair mortar

- The surface preparation and priming must be done as described above.
- The substrate temperature must be above 5°C and below 30°C
- The Ambient temperature must be above 5°C and below 35°C
- The substrate humidity must be less than 10%.
- The relative air humidity must be less than 80%.
- Mix the Sika MonoTop-612 according to the supplier's specifications.
- Apply the Sika MonoTop-612 wet on wet by hand with a trowel or spatula onto the Sika MonoTop-610 bonding bridge. For depths greater than 30mm the Sika MonoTop-612 should be applied in layers. The minimum cover to the reinforcement should be 30mm.
- In the case of a multiple layer application, as soon as the first layer has reached initial set, the surface should be given an open texture by rubbing with a wooden or plastic float prior to application of the next layer. Use Sika MonoTop-610 bonding bridge for day joints and between layers if they are left to cure for more than 24 hours.
- If a finer surface finish is required or a protective coating is to be applied, Sika MonoTop-612 can be over coated with Sika MonoTop-620 surface leveling compound as required.

Corrosion inhibiting impregnation

Substrate preparation

- The concrete must be free from dust, loose material, surface contamination, existing renders and other materials that will prevent penetration.
- Delaminating, weak, damaged or deteriorating concrete shall be repaired with Sika MonoTop as specified under concrete spalling repair procedure.
- The surface must be high pressure washed with clean potable water (up to 18 MPa pressure) to remove debris and residual contamination and to provide the required adhesion.
- For optimum penetration the surface should be allowed to dry out prior to the application of Sika Ferrogard-903+

Sika Ferrogard-903+ (or similarly approved) Corrosion inhibiting impregnation application

- The surface preparation must be done as described above.
- The substrate temperature must be above 5°C and below 40°C
- The Ambient temperature must be above 5°C and below 40°C
- The Sika Ferrogard-903+ is supplied ready for use and must not be diluted or shaken.
- Sika Ferrogard-903+ shall be applied to saturation (0.500 kg/m²) by brush, roller or low-pressure spray equipment. After the application of the last coat, as soon as the surface becomes mat, do a low-pressure water cleaning with a water hose.
- The day after application the surface shall be cleaned by pressure washing (10MPa).

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.8.1.2 Steel Corrosion Paint application

Coating System 1 – Internal

Description

Painting of internal and external surfaces of the structure steelwork, under normal temperatures or atmospheric conditions.

Surface Preparation

Wash down with Carboclean 250 and rinsing with potable water. Dry abrasive blast to near white metal to grade SA2½ pictorial standard to ISO 8501-01: 1988.

D.F.T

(microns)	
INTERMEDIATE COAT ONE	
Carbozinc 658 (twin pack epoxy zinc rich)	75
INTERMEDIATE COAT TWO	
Carboguard 193 (epoxy polyamide)	100
FINAL COAT: (where exposed to the elements)	
Carbothane 134 (aliphatic acrylic polyurethane)	2 x 40
<u>Total D.F.T</u>	
<u>255um</u>	

Coating System 2 – External

Description

Coating system for the external surfaces of the galvanized rainwater downpipes. All steel to be galvanized externally and internally with a mean coating thickness of 70 microns according to ISO 1461. After galvanizing, sweep blast clean the galvanized surface to obtain a mechanical key between the galvanizing and the paint layers as following.

Normal blast cleaning will damage the galvanized layer and is not recommended. Sweep-blast-clean using un-recycled Blastrite Microblast (ultrafine non-metallic grit, not less than 0.2mm and not greater than 0.8mm) using nozzle pressure not greater than 300kPa (43Psi), holding the nozzle at a 30° - 60° angel to the surface being cleaned and holding the nozzle at 450-600mm away from the surface being blasted.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Surface Preparation

After sweep blast cleaning the galvanized surface, wash down with Carboclean 250 and rinse with potable water.

	D.F.T
(microns)	
INTERMEDIATE COAT ONE Carboguard 193 (epoxy polyamide)	100
FINAL COAT ONE Carbothane 134 (aliphatic acrylic polyurethane)	40
FINAL COAT TWO Carbothane 134 (aliphatic acrylic polyurethane)	40
Total D.F.T	180um

Coating System 3 – Alternative To Coating System 2**Description**

Alternative to galvanizing.

Surface Preparation

Wash down with Carboclean 250 and rinsing with potable water. Dry abrasive blast to near white metal to grade SA2½ pictorial standard to ISO 8501-01: 1988.

	D.F.T
(microns)	
INTERMEDIATE COAT ONE Carmastic 15 (aluminium filled epoxy mastic)	100
INTERMEDIATE COAT TWO Carmastic 15 (aluminium filled epoxy mastic)	100
FINAL COAT ONE Carbothane 134 (aliphatic acrylic polyurethane)	40
FINAL COAT TWO Carbothane 134 (aliphatic acrylic polyurethane)	40
Total D.F.T	280um

Notes:

- 10% minus tolerance will be allowed in the nominal thickness giving a minimum permissible thickness provided the mean DFT is in excess of the nominal thickness .

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

DFT in excess of the nominal thickness by a factor of 2 or more may not be acceptable as over thick applications lead to adhesion problems, mudcracking and intercoat adhesion problems. All areas found on inspection to be over the maximum specified thickness shall be re-examined for the presence of mudcracking and lack of adhesion factors. Areas showing either of these defects shall be repaired to the satisfaction of the Employer's Inspectorate.

Pre-Cleaning

All structural steelwork and existing coatings shall be thoroughly washed down with an approved degreaser to yield a 'water break free' surface condition then dry abrasive blast to near white metal in accordance with SA2½ of ISO8501-1 : 1988 to obtain a surface profile of 40 – 80 microns. Then washed down again with a VPCI water based wash and allowed to dry. Only such areas that can be coated within one shift are to be washed at any one time.

Paint Coatings (On Site)

All areas displaying damage or loss of coating are, following surface preparation as above, to be patch primed in accordance with the specified patch priming procedure. Patch priming is to be carried out using high build surface tolerant twin pack epoxy paint.

Immediately following cleaning and within four hours thereof all surfaces are to receive the coating in accordance with the manufacturers data sheets.

The material is to be sufficiently tinted in order that the finished applied colour can be easily distinguishable from the substrate.

The materials are to be applied by brush, roller or airless spray to the specified nominal dry film thickness.

The material is to be applied to a nominal dry film thickness specified per coat.

The final colour will be admiralty grey as approved.

Standards and Specifications Applicable

SANS 10064-2005: The Preparation of Steel Surfaces for Coating.

SANS Method 2808-1997: Dry film thickness of paint coatings by means of electro-magnetic flux or eddy current type gauges.

SANS Method 5159-1975: Adhesion of paint and varnish films (cross-cut test).

SANS Method 5769-1978: Cleanliness of blast-cleaned steel surfaces for painting (assessed by freedom from dust and debris).

SANS Method 5770-2004: Preparation of Steel Substrates before the application of paints and related products - Test for the assessment of cleanliness of blast-cleaned steel surfaces – (freedom from certain soluble salts.)

SANS Method 5776-1978: Adhesion of coatings (direct pull-off method).

SANS 1200HC-1988: Standard Specification for Civil Engineering Construction – Corrosion Protection of Structural Steelwork.

If the Swedish Standard for Surface Preparation is referred to in this or any other specification, then it should be replaced with ISO 8501-01:1988 using the same reference standard.

T1.8.1.3 Palisade Security Fencing**Specification for Standard Type Concrete Palisade Fence****Pre-Fabricated Concrete Elements:**

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Workmanship and Finish in General: All concrete elements shall be manufactured from sound concrete, free of structural defects, complying with any sample if previously submitted. All elements shall have off-shutter finish on three sides, with the fourth side having a wood floated finish.

Shape & Dimension: All elements shall retain the required shape and be true to the respective and specified dimensions as indicated below

Performance Requirements (Strength): The required concrete compressive strength in all pre-fabricated pre-stressed elements shall be a minimum of 30 Mpa at 28 days, determined in accordance with SABS method 863.

Curing: All concrete elements shall be cured in accordance with the recommendations given in SABS method 863

Reinforcement: All steel used for reinforcements in pre-fabricated elements shall be high yield steel with a minimum characteristic strength of 410 Mpa, and shall be free of rust, loose scale, flux, grease or oil substances and shall in general comply with SABS 920 and BS 4482.

Pre-Stressing Steel: All wires shall be of the crimped variety and shall be free of rust, loose scale, flux, grease or oil substances and shall in general comply with BS 5896.

Post:

The post shall be 3.0m long and slotted, as per drawing, to take the horizontal load bearing rails. The front edge shall be curved. The back section shall be 100mm wide tapering to the front to 60mm. The thickness of the post shall be 165mm. Posts shall be spaced at 2.0m centre.

The posts shall be pre-stressed with 4 x 4mm wire graded 1550 / 1700 Mpa, stressed to 75% of the U.T.S. (Ultimate Tensile Strength). Pre-stressed wires shall be cut at the surface level and sealed the top of the post shall be angled at 45°.

Pales:

The pales shall be 2.4m long with two 10mm holes to take 8mm carriage type bolts. The front edges shall be curved. The back section shall be 70mm wide tapering to the front to 60mm. The thickness of the pales shall be 55mm. Pales are spaced at +/- 190mm centres.

The pales shall be pre-stressed with two 4mm wires grade 1550 / 1700 Mpa, stressed to 75% of the U.T.S. (Ultimate Tensile Strength). Pre-stressed wires shall be cut at surface level and sealed. The top and bottom of the pales shall be angled at 45°.

Rails

The rails shall be 1.98m long with eleven x 10mm holes to take 8mm carriage type bolts. The rails shall be 125mm wide and 55mm deep. All rails are to be grouted into posts.

The rails shall be pre-stressed with four 4mm wires graded 1550 / 1700 Mpa, stressed to 75% of the U.T.S. (Ultimate Tensile Strength). Pre-stressed wired shall be cut at surface level.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information**Bolts:**

All bolts used for the erection of the fence shall have their ends burred over. The holes shall be filled with cement mortar.

All nuts, bolts and washers used for the erection of the fence shall be electro-galvanised (zinc and chrome passivated).

Erection:

Each post shall be embedded to full depth in concrete in a foundation hole of at least 460mm x 460mm and a depth of 600mm.

The sizes specified in par. 6.1 are for firm soils and it may be necessary to increase these sizes for softer yielding soils.

Foundation shall be a minimum of 10 Mpa at 28 days.

T1.8.1.4 Control Valves

The most popular reservoir level control is hydraulic. Hydraulic level controls are preferred over Actuators since they do not require any electricity and require minimal maintenance, with lower running costs.

Altitude Level Controls can be used where there is a dedicated feed to the reservoir (i.e. No off takes on the reservoir supply). In cases where there is/will be off takes on the main reservoir supply, rather use a rate of flow level control with an orifice plate (sized for maximum flow) downstream of the level control. Float level controls will also be considered.

- Altitude level control (where there is a dedicated reservoir supply).
- Rate of flow level control (where there is no dedicated supply).
- Float Level control mechanism also considered

T1.8.1.5 General Valve Requirements

Minimum pressure rating PN16. It must be a standard Water Works valve (anti-clockwise close) with the thrust collar located on the underside of the casing and not with thrust collar under the gearbox.

- Butterfly valves and RSV (resilient seal valves) are not permitted on reservoir sites due to the fact that they do not seal properly with age.
- Air valves can be double or triple acting type.
- Non- return valves can be the Arm-Weight type, or "Klakker" type

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.8.1.6 General Pipework Requirements

All pipe work to be steel and coupon coated.

- Butt welded joints are more favourable for long pipe sections, however flanged sections are also allowed. The typical class of pipe would be a Class 16. However, on high pressure systems Class 25 is suitable with a wall thickness of at least 12mm, depends on d/t ratio and design pressure.
- Flexible joints are not recommended, unless approved by the Midvaal Local Municipality. These include VJ Couplings and Victaulic clamps or flange adaptors etc.
- Any anchor blocks or thrust blocks must be so designed that no portion of the concrete will intersect any welded joint section of the pipe work.

T1.8.1.7 Meter Requirements

The installation of bulk water flow meters (40mm and above) in accordance with the manufacturer's specification and standards is vital for flow meter accuracy and performance. Proper flow meter installation reduces or eliminates incorrect flow measurement as well as induced errors.

Coating

All fabricated fittings and flanged distance pieces shall be evenly coated internally as well as externally with a fusion bonded powdered epoxy coating to SANS 1217 type 2 and shall also incorporate an UV protector. The coating shall be of a min 250microns and max 700microns coat film thickness

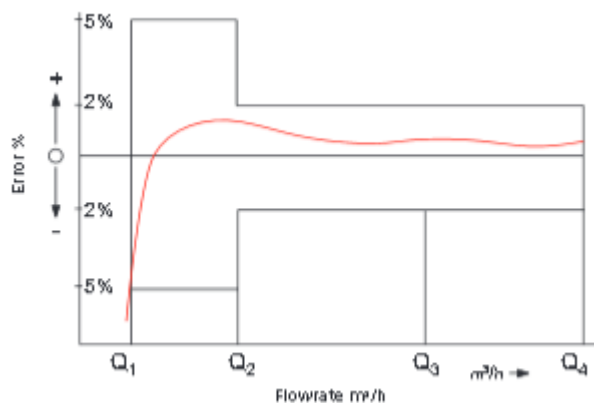
Mechanical Meters

There is one type of mechanical meters that will be used.

1. Mechanical In-Line meter

This type of meter is connected into the line that needs to be metered using flanges and a strainer is required prior to the meter. Meters must comply with the following requirements:

1. Meter must be SABS 1529 approved and must be delivered with a certificate of calibration.
2. Meter must have a facility to measure flow volume pulse output.
3. Meters must be capable of forward and reverse reading.
4. Meters must have built in pressure tapping point.
5. Meter must be able to be installed horizontally and vertically.
6. Meter must be PN16.
7. Meter must be able to work up to 50°C and below.
8. Dial must have the totalized reading in meters cube (m³), and the meter factor needs to be shown clearly. The dial also needs to have 3 smaller dials (0.100, 0.010 & 0.001) showing the liters of water passing through the meter.
9. The meter needs to have an error of less than 2.5% as shown in the below graph.



10. Register must be IP68 or higher.
11. Reading must not be affected by magnetic fields.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Electromagnetic Field Flow Meters

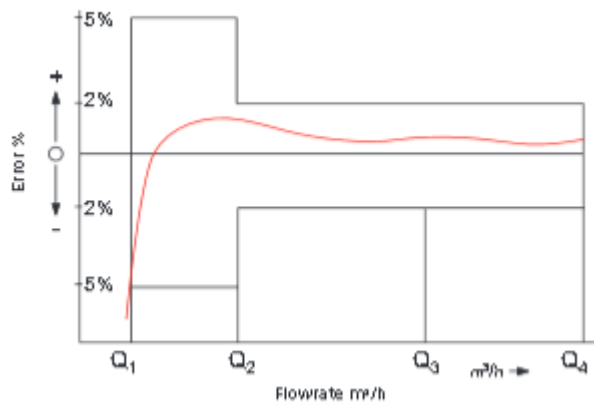
There are two types of electromagnetic flow meter:

1. In-line Full Bore Electromagnetic Field Flow meter
2. Insertion Electromagnetic Field Flow Meter

In-line Full Bore Electromagnetic Field Flow meter

These types of meters are installed in-line using flanges and do not require the use of a strainer. Meters must comply with the following requirements:

1. Meter must be ISO7145, ISO4064|OIML R49 approved and must be delivered with a certificate of calibration.
2. Meter flanges must comply with SABS1123 Table 1600/3.
3. Meter must have a dual pulse (forward and reverse), 4-20mA and must have a Modbus output standard (HART optional add-on).
4. Meter must be able to be installed horizontally and vertically.
5. Meter must be PN16.
6. Meter must be able to work up to 50°C.
7. The meter needs to have an error of less than 2% as shown in the below graph.



8. The enclosure sensor must be IP68 or higher.
9. The meter must be able to measure forward and reverse flow.
10. If the meter is battery operated it must have both GPS and GPRS Outputs
11. If the meter is battery operated it must be compatible with a Adroid SCADA system

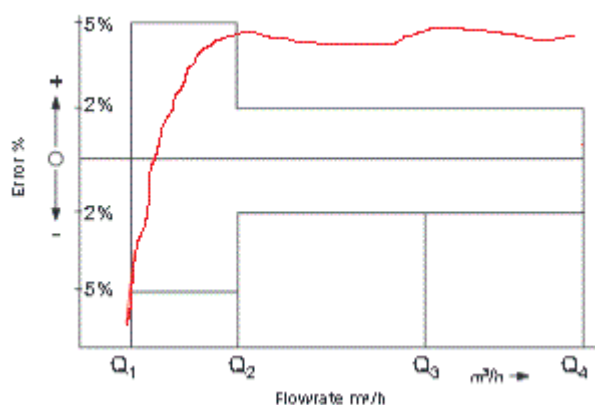
Insertion Electromagnetic Field Flow meter

1. Meter must be ISO7145, ISO4064|OIML R49 approved and must be delivered with a certificate of calibration.
2. Meter must have a dual pulse (forward and reverse), 4-20mA and a MODBUS output standard (HART optional add-on).
3. Meter must be inserted perpendicular to the pipe, with the ability to remove the meter in relation to the chamber dimensions.
4. Meter must be able to work up to 50°C.
5. The meter needs to have an error of less than 5% as shown in the below graph.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information



6. The probe needs to be able to handle 20bar of pressure.
7. Meter Housing needs to be IP68.
8. Meter needs to have a digital display showing totals.
9. Meter needs to be able to run off 24V DC.
- Where meter is installed at a remote site, the meter must be battery operated.
10. Meter needs to be able to record forward and reverse flow.
11. If the meter is battery operated it must have both GPS and GPRS Outputs
12. If the meter is battery operated it must be compatible with a Android SCADA System

Ultrasonic Flow Meters

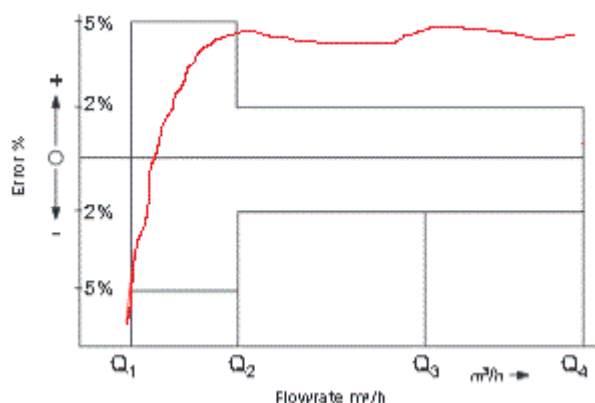
There are two types of ultrasonic flow meters:

1. Wetted Ultrasonic meter
2. Clamp-on Ultrasonic meter

These types of meters are all installed differently, Wetted transducers work using the same concept as the clamp on, but are in direct contact with the medium in the pipeline. Clamp-On transducers are clamped externally onto the sides of the pipe. None of these setups require strainers. Meters must comply with the following requirements:

Wetted Ultrasonic Meters

1. Meter must be ISO7145, ISO4064|OIML R49 approved and must be delivered with a certificate of calibration.
2. Meter must have a dual pulse (forward and reverse), 4-20mA and a MODBUS RTU with RS485 output standard (HART optional add-on).
3. Meter must be able to be installed horizontally and vertically.
4. Meter must be able to work up to 50°C.
5. The meter needs to have an error of less than 5% as shown in the below graph.



6. The transducers need to be able to handle 20bar of pressure.

Employer:		Contractor	
Witness:		Witness:	

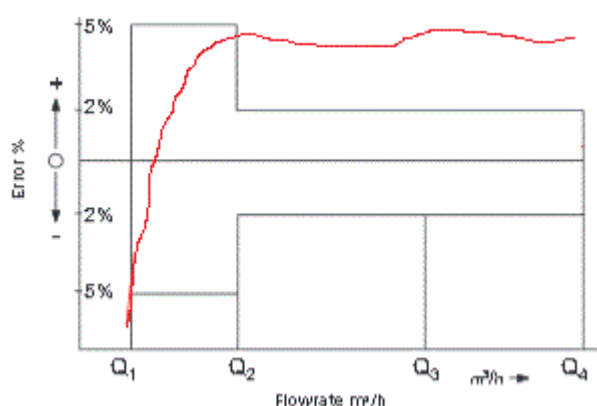
Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

7. Meter Housing needs to be IP68.
8. Meter needs to have a digital display showing totals.
9. Meter needs to be able to run off 24V DC.
Where meter is installed in a remote area, meter to be battery operated.
10. Meter needs to be able to record forward and reverse flow.

Clamp-On Ultrasonic meters

1. Meter must be ISO7145, ISO4064|OIML R49 approved and must be delivered with a certificate of calibration.
2. Meter must have a dual pulse (forward and reverse), 4-20mA and a MODBUS RTU with RS485 output standard (HART optional add-on output).
3. Meter must be able to be installed horizontally and vertically.
4. Meter must be able to work up to 50°C.
5. The meter needs to have an error of less than 5% as shown in the below graph.



6. The transducers need to be IP68 rated.
7. Meter Housing needs to be IP68.
8. Meter needs to have a digital display showing totals.
9. Meter needs to be able to run off 24V DC.
Where meter is located in a remote area meter is to be battery operated (refer to section Telemetry)
10. Meter needs to be able to record forward and reverse flow.

T1.8.1.8 Installation Procedure

Great care is to be taken during the installation of all meters as this is what determines the accuracy of the unit.

With every Meter, it has its own unique procedure to be installed. Field Technicians installing these meters should familiarize themselves with the user manuals provided from the supplier, understanding every last aspect of that meter from how it works to installation, commissioning and trouble shooting. Installation of flow meters must at a minimum be in accordance with the manufacturer's written specifications in order for a flow-meter to be accurate.

T1.8.1.9 General Installation Rules

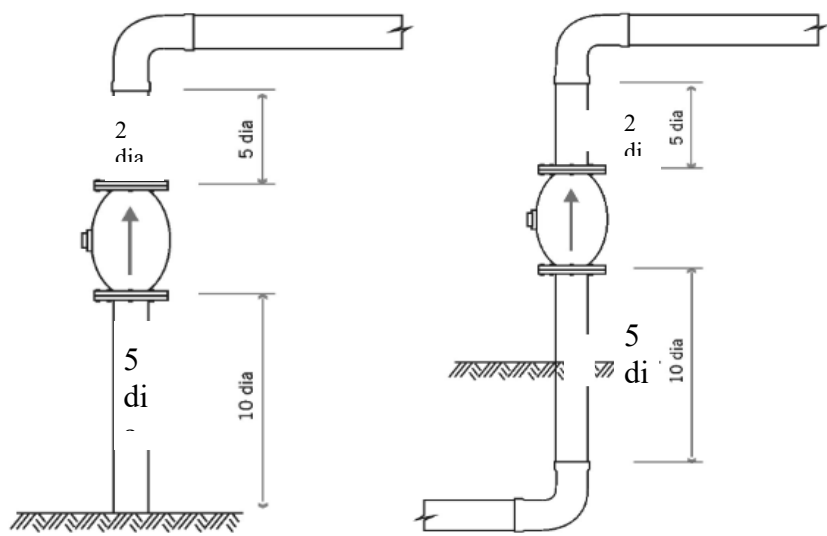
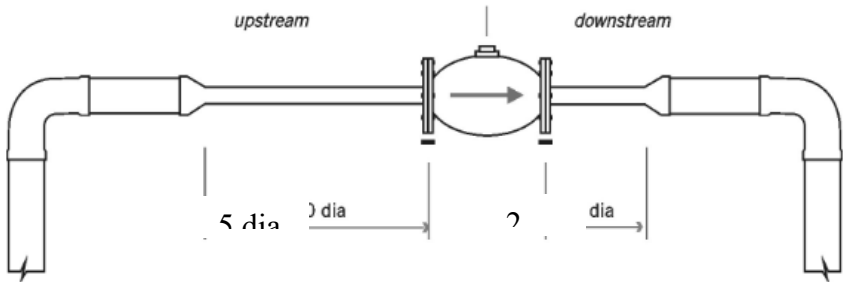
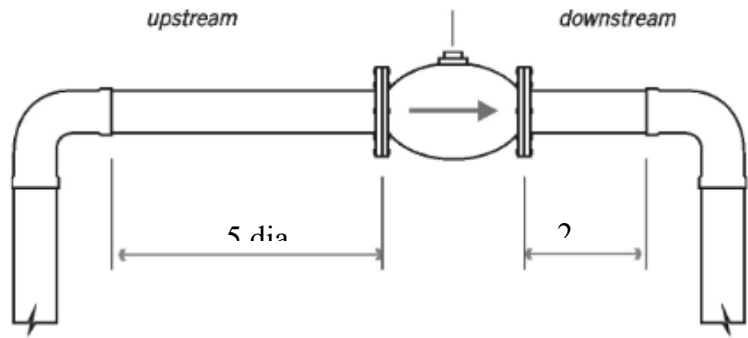
In this section general rules of installing meters will be listed. These are to be followed completely unless a deviation is agreed upon in conjunction with the Employer in writing.

1. Every design has a certain tolerance to non-stable velocity conditions in the pipe, but all units require proper pipe configurations to operate efficiently. Pipe configurations provide a normal flow pattern for the device, ensuring specified accuracy and performance. The figures below give an indication of what is meant by this. (Please Note every meter will have its own parameters to be used)

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information



- Where the meter is installed on the discharge side of a pump, a minimum of 10 – 20 pipe diameters upstream and 5 – 10 pipe diameters downstream straight pipe is required.
- The installed flow meter must maintain an accuracy of (+/-2.5%) of the true flow rate throughout its operation for billed meters and (+/-5%) accuracy for non-billed meters. NB! After installation.
- The flow meter must be capable of displaying totalized flows and rate of flows in metric units.
- The meter must be labelled to show the direction of flow and any other data necessary to achieve the desired accuracy (e.g. calibration factors). With regards to clamp-on and insertion meters, the pipe needs to be marked showing the direction of flow neatly with WHITE paint next to the installation.
- The meter must be easily identifiable by the manufacturer's serial number firmly attached to the meter.
- Associated fittings, such as flow straighteners, pipe reducers, bends, valves, strainers etc. are to be located outside the specified lengths of straight pipe

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

8. The meter must not be installed in a section of pipe where there may be air pockets. If it is likely that air will become entrapped near the meter, an air valve must be installed upstream of the meter (as per the design engineer).
9. The bulk flow meter must be installed in an easily accessible location which must comply with Health and Safety Regulations to ensure safety and minimise hazards and risks.
10. Flange gaskets must not protrude into the bore of the pipe and must be sealing and electrically insulating.
11. Meters need to be verified within a 24-month period.
12. Reservoirs & Towers
 - a. Flow Rate – Litres/sec (l/s)
 - b. Totalised Flow – Cubic metres (m³)
13. Check Meters
 - a. Flow Rate – Cubic metres/hour (m³/hr)
 - b. Totalised Flow – Cubic metres (m³)

T1.8.1.10 Installation Rules for Particular Meters.**Mechanical Meters In-Line Meters**

1. A strainer must be installed upstream of the meter, complying with the minimum distance requirements.
2. The manufacturer's value for maximum peak flow should not be exceeded for extended periods.
3. Meter must be installed in a pipeline that is free of extensive vibration.
4. Supplied flow meter must have provision for pressure testing points.
5. Thorough flushing of the pipeline must be done before flow meter installation.
6. After installation, the pipeline should be gradually charged to avoid damage to the meter due to air or water surges.
7. Meter must be installed to allow ease access to the meter dial for meter reading purposes.
8. An additional tap point must be installed upstream of the meter (as per clear distance requirements) for testing the meter accuracy in future with a test bench calibrated insertion flow meter. This point must be 25mm in diameter.

Electromagnetic Field Flow Meters

1. The flow sensor (both full bore and insertion probe) must be grounded according to manufacturer specifications for safety and to ensure proper and reliable operation.
2. The flow meter must not be installed in areas of strong magnetic fields or vibration.
3. The meter sensor terminal box must be potted and sealed to prevent water ingress (IP68).
4. The maximum velocity permissible for insertion probe flow meters must meet manufacturer specifications based on the length of the particular insertion probe inside (into) the pipe. Meter to be installed to a depth that will not exceed the maximum velocity.
5. The flow sensor must be insulated from the pipeline by means of insulating flange kits for full bore EMF and a dielectric decoupler for Insertion Probes.
6. For full bore meters, continuity of the pipe is achieved by bypassing the meter with an earthing cable (minimum 10mm sq).
7. Continuity Bonding must be outside the chamber for all new flow meter installations and must be inside the chamber for existing flow meter installations.
8. Signal cables are not to be cut and re-joined unless done so by the supplier.
9. A 20mm or 25mm galvanised conduit is to be run the shortest possible distance to the wall of the chamber containing the signal cables. Cable must be taken to ground immediately. No cables are to be left open.
10. Line pressure and temperature will not exceed the flow meter rating.
11. Meters may not be installed in areas where high RF, EMI, or other electrical interference may be present. Including devices such as VSD's (variable speed drives), large AC motors, etc.
12. Make sure that the correct formulas are used for installation purposes according to the manufacturer's installation manual.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

13. The following minimum clear distance requirements apply: A 5 x diameter straight pipe before the meter and a 2 x diameter downstream. Bi-Directional meters need to have 5 x diameter upstream and 2 x Diameter downstream. Unless the manufacture requires a greater distance, in this case the manufacturer's specifications will take preference.
14. Meter needs to have a digital display, showing both flow rate and flow totals.

Ultrasonic Flow Meters

1. Couplet grease must be used for all clamp-on installations.
2. Installation of clamp-on transducers must ensure operation and accurate flow measurement during periods of submersion (chamber flooding). Transducers need to be IP68 or higher for permanent installations.
3. Transducers must make good contact with the pipe material; scale, rust, corrosion, loose paint etc. must be removed from the mounting section of pipe.
4. Pipe wall must be in good condition and its thickness measured.
5. A strong stainless-steel strap is to be used to mount transducers onto the pipe.
6. Signal cables are not to be cut and re-joined unless done so by the supplier or an approved installer.
7. A 20mm or 25mm galvanized conduit is to be run the shortest possible distance to the wall of the chamber containing the signal cables. Cable must be taken to ground immediately. No cables are to be left open.
8. Meter to have a digital display showing flow rate and flow totals.
9. Clamp on transducers are not to be installed on the top, bottom or sides of the pipe but at a 45-degree angle to the pipe.
10. When using wetted transducers, the connection made to the pipe needs to have a ball valve/gate valve installed, for maintenance purposes.

Earthing

All flow meter installations (sensors and convertors, with the exception of mechanical and ultrasonic sensors) must be connected to an instrument earth to minimise or eliminate external influence on the flow measurements.

1. The instrument earth must be crow's foot of copper strips placed in the soil.
2. Earthing wire must be stranded copper cables at least 6 square millimetres, terminated in lugs and bolted to the earth rings, flow meter flanges for full bore and flow meter casing for insertion probes and firmly clamped to the instrument earth.
3. The signal convertors and flow sensors are to be connected to the same earth via a 10 square millimetre earth wire.
4. Earthing needs to run alongside power cable.
5. An 8Ω or lower electrical earth is acceptable.

Meter Chambers

1. Chambers need to be designed according to the pipe size and not the meter size. Even if an Insertion meter is being installed, there needs to be sufficient space to install a flanged meter in future, as well as, an additional pressure tap for testing purposes and sufficient space for maintenance thereafter (i.e. a person must be able to entry the chamber, as well have sufficient space to remove any fittings).
2. All chambers need to have step irons installed.
3. Chambers must have a build in sump.
4. Chambers must have a concrete slab for the base.
5. All new chambers shall have continuity bonding installed on the outside of the chamber.
6. All existing chambers shall have continuity bonding installed on the inside of the chamber.
7. Chamber's walls must protrude 200mm from the ground. (Without taking into consideration the thickness of the roof slab)
8. All Chambers must have a screed angled towards the sump.
9. There needs to be a clearance of 350mm below the lowest point on the pipe (flange or valve) and the floor slab, and 350 between the pipe and the chamber walls.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

10. Chamber needs to have a lockable lid
11. Chamber needs to be completely water tight.
12. Chambers need to be built with the conduits already installed through the walls. 500mm from the top of the wall.
13. As far as practically possible, meters are to be housed within their own chambers.
14. All chambers must be suitably earthed.



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.9 PROCUREMENT

T1.9.1 Preferential Procurement Procedures

The Contractor's attention is drawn to the following returnable schedule contained in Part T2:

a) Empowerment and Preferential Procurement

This schedule contains all requirements with regard to preferential procurement.

T1.9.2 Sub-contracting

The Contractor is:

- not obliged to utilise any sub-contractors specifically nominated by the Employer.
- required to utilise local sub-contractors for the completion of unskilled labour-based sections of the works, where practical.
- responsible for all work executed on his behalf or under his supervision and/or management by all sub-contractors, including nominated sub-contractors.

NOTA BENE: The Employer shall not negotiate directly with sub-contractors and all problems relating to payments, programming, workmanship, etc., are matters between the Contractor and his sub-contractors.



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.10CONSTRUCTION

T1.10.1 Applicable Standards

T1.10.1.1 National standards

The Standard Specifications for all associated civil work applicable to this Contract shall be:

SANS	Description
28	: Metal ties for cavity walls (1986)
135	: Metallic coatings - Electrodeposited coatings of nickel plus chromium and of copper plus nickel plus chromium (1988)
136	: Metallic coatings - Electrodeposited coatings of nickel (1988)
227	: Burnt clay masonry units (2007)
282	: Bending dimensions and scheduling of steel reinforcement for concrete (2004)
523	: Limes for use in building (2007)
558	: Cast iron surface boxes and manhole and inspection covers and frames (1973)
664	: Cast iron gate valves for waterworks (1999)
665	: Cast iron gate valves for general purposes (2000)
719	: Electric welded low carbon steel pipes for aqueous fluids (large bore) (2002)
815-1	: Shoulder-ended and groove-ended piping systems Part 1: Shoulder-ended steel pipes, fittings and couplings (2005)
815-2	: Shoulder-ended and groove-ended pipe systems Part 2: Groove-ended steel pipes, fittings and couplings (2004)
920	: Steel bars for concrete reinforcement (2005)
936	: Spheroidal graphite iron castings (1969)
1024	: Welded steel fabric for reinforcement of concrete (2006)
1056-1	: Ball valves Part 1: Fire-safe valves (1984)
1056-2	: Ball valves Part 2: Heavy duty valves (not fire-safe) (2006)
1083	: Aggregates from natural sources - Aggregates for concrete (2006)
1090	: Aggregates from natural sources - Fine aggregates for plaster and mortar (2002)
1109-1	: Pipe threads where pressure-tight joints are made on the threads Part 1: Dimensions, tolerances and designation (2005)
1109-2	: Pipe threads where pressure-tight joints are made on the threads Part 2: Verification by means of limit gauges (2005)
1123	: Pipe flanges (2007)
1200 A	: General (1986)
1200 DA	: Earthworks (Small works) (1988)
1200 G	: Concrete (Structural) (1982)
1200 GA	: Concrete (Small works) (1982)
1200 GE	: Precast Concrete (1984)
1200 L	: Medium-pressure pipe lines (1983)
1200 LB	: Bedding (Pipes) (1983)
1200 LF	: Erf connections (water) (1983)
1217	: The production of painted and powder-coated steel pipes (2001)
1283	: Modified polyvinyl chloride (PVC-M) pressure pipe and couplings for cold water services in underground mining (2002)
1491-1	: Portland cement extenders Part 1: Ground granulated blast-furnace slag (2005)
1491-2	: Portland cement extenders Part 2: Fly ash (2005)
1491-3	: Portland cement extenders Part 3: Silica fume (2005)
1529-1	: Water meters for cold potable water Part 1: Metrological characteristics of mechanical water meters of nominal bore not exceeding 100mm (2006)
1529-3	: Water meters for cold potable water Part 3: Physical dimensions (2006)
1529-4	: Water meters for cold potable water Part 4: Mechanical meters of nominal bore exceeding 100mm but not exceeding 800mm (2004)
1529-9	: Water meters for cold potable water Part 9: Requirements for electronic indicators used with mechanical water meters, electronic water meters and electronic prepayment water measuring systems (2007).

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

1808-18	: Water supply and distribution system components-PVC-U Gate valves (2004).
1882	: Polymer concrete surface boxes, manhole and inspection covers, gully gratings and frames (2003)
4437	: Buried polyethylene (PE) pipes for the supply of gaseous fuels - Metric series – Specifications (1997)
5861-2	: Concrete tests - Sampling of freshly mixed concrete (2006)
5862-1	: Concrete tests - Consistence of freshly mixed concrete - Slump test (2006)
5863	: Concrete tests - Compressive strength of hardened concrete (2006)
5864	: Concrete tests - Flexural strength of hardened concrete (2006)
5865	: Concrete tests - The drilling, preparation, and testing for compressive strength of cores taken from hardened concrete (1994)
10112	: The installation of polyethylene and poly(vinyl chloride)(PVC-U and PVC-M) pipes (2003)
14236	: Plastic pipes and fittings - Mechanical-joint compression fittings for use with polyethylene pressure pipes in water supply systems (200)

These Specifications are not issued with this volume but are available at the Contractor's expense from Standards South Africa:

Office Address:

1 Dr Lategan Road
Groenkloof
PRETORIA

Postal Address:

Private Bag X191
PRETORIA
0001

Telephone:

National: (012) 428 7911
International: + 27 12 428 7911
Email: sales@sabs.co.za

Telefax:

National: (012) 3441568
International: + 27 12 344 1568

T1.10.1.2 Other Standards

Other Standard Specifications for applicable to this Contract shall be:

- ASTM C.309 Type 1 (Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete)
- South African Road Traffic Signs Manual, Chapter 13.
- ASTM C150/C150M-09 Standard Specification for Portland Cement.
- ASTM E23 - 07ae1 Standard Test Methods for Notched Bar Impact Testing of Metallic Materials.
- ISO 2531 (1998) Ductile iron pipes, fittings, accessories and their joints for water or gas applications.
- ISO 4179 (2005) Ductile iron pipes and fittings for pressure and non-pressure pipelines - Cement mortar lining.

T1.10.2 Particular generic specifications**T1.10.2.1 Minimum health and safety requirements**

The following requirements shall be deemed minimum compliance requirements to ensure the health and safety of the public and workers during the execution of the Contract:

T1.10.2.1.1 Road safety equipment

Work units or teams shall be provided with:

- an amber-flashing beacon, which shall comply with and be operated in accordance with any governing road vehicle lighting regulations or similar.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

- b) **appropriate sized and quantity of road signs, including delineators and cones which shall be displayed at the works area in accordance with the South African Road Traffic Signs Manual, Chapter 13.**
- c) bright coloured overalls, fluorescent over-jackets and belts for each team member for use at all working times during the day or night.

T1.10.2.1.2 Works site safety

The works are to be executed in areas with high volume pedestrian and vehicular traffic. The Contractor shall ensure that:

- the workspace required to successfully complete installations shall be kept at a minimum. Thus, plant and equipment not used is to be removed from the work site to minimize disruption to the customer, other traffic and the general public.
- the working area shall be free of debris when the Contractor leaves the site at the end of the day or each shift.
- open chambers, machinery and standing equipment are to be protected to ensure the safety and convenience of traffic, the general public or other at all times.

T1.10.2.2 Traffic control

Traffic (human and vehicular) control and signage shall be in accordance to the South African Road Traffic Signs Manual, Chapter 13. And at minimum include:

- a traffic control plan with detailed diagrams showing the location of all traffic control devices and the length of time for all lane closures, as well as location of any flaggers, as necessary.
- one lane of traffic in each direction must be maintained at all times and local streets may only be closed with prior approval of the Engineer.
- provision and maintenance of lights, guards, fencing and watching when and where necessary or required for the protection of the Works and the materials and equipment utilized therefore or for the safety and convenience of the public or others.
- the name and number of the Contractor representatives responsible for traffic control shall be made available to solve traffic problems at each works site location.

T1.10.2.3 Metric measurement

All survey recorded dimensions of infrastructure shall be in metric units, including for conduits, chambers.

T1.10.2.4 Site preparation

Prior to any Works commencement the Contractor shall photograph or video tape entire work area. One copy of which shall be given to the Engineer's authorized representative and one copy shall remain with Contractor for a period of 52 weeks following the issue of a Completion Certificate. This record shall be used to establish accountability for damages during the execution of the Contract.

No alterations beyond what is required for Works are to be made. Contractor shall confine all activities to designated work areas, to the absolute minimum required.

T1.10.2.5 HDPE pipes

T1.10.2.5.1 Pipe colour

Pipe shall conform to the following:

- Pipe shall only be black.
- Colour shall homogeneous throughout.

T1.10.2.6 Pipe handling and storage

Pipe shall be handled and stored in accordance with manufacturer's specifications and these specifications, including:

- Pipes shall be stored on flat level ground or the storage base shall be made level to ensure pipes are stacked level and vertical. Pipes shall be kept securely anchored to prevent movement using

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

timber, timber wedges or sand bags. Pipes shall be placed on timber bearers not more than 1.5m apart. Where pipes are stacked, timber bearers shall be placed between each layer of pipes. It shall also be ensured that the weight of upper units do not cause deformation to pipe in lower units.

- b) Plastic pipes shall be stored away from contact with chemicals or ground contaminated with chemicals.
- c) Care shall be taken to prevent scoring and scratching of plastic pipes.
- d) Rubber rings for pipe joints shall be stored in a cool area, preferably 20°C or less and away from direct sunlight. They shall be protected to ensure that there is no contact with petroleum products. SBR rings shall also be stored away from sources of ozone such as fluorescent lights and electric motors.
- e) Plastic pipes, and steel pipes with bituminous coatings shall be stored in a shaded area at all times. Where permanent storage structures are not available, pipes shall be stored under shade-cloth canopies manufactured from shade-cloth with shade cover rated at a minimum of 80%, protecting the pipes from direct sunlight from all angles.

T1.10.2.7 Inspection of pipes and fittings

Pipe components shall be checked for damage and flaws immediately before installation, where:

- a) plastic pipes and fittings shall be checked for gouges, cracks, holes, flattening and indentations.
- b) rubber rings shall be checked for tears or any other damage or flaws before making each joint.

Damaged or flawed pipes and fittings shall only be used if approved by the Engineer. Pipes and fittings considered unsuitable for use by the Engineer shall be removed from the site at the Contractor's expense. The Engineer may approve the repair of any damage where the pipe or joint may be repaired without affecting its performance.

T1.10.2.8 Cutting of plastic pipes

- a) Pipes shall at all times be cut square to the barrel of the pipe. For:
 - i) rubber ring and solvent cement jointed pipe, the deviation from square shall not be in excess of 5mm.
 - ii) butt or electro-fusion jointed PE pipes the deviation from square shall not be in excess of 1mm.
- b) Jagged edges shall be removed from pipe ends.
- c) Cut edges of rubber ring or solvent cemented plastic pipes shall be bevelled in accordance with the manufacturer's instructions.

T1.10.2.9 Acceptability of cuts or gouges

Cuts or gouges that reduce the pipe wall thickness in excess of 10% is not acceptable and shall be cut out and discarded (properly disposed from the site).

T1.10.2.10 Encountering of water during operations

The Contractor is to provide and maintain a water removal system that has sufficient capacity to remove all encountered water, during Works operations. Such system(s) shall ensure that soil particle removal is kept at a minimum.

T1.10.2.11 Site restoration

The Contractor, following all Works completion, shall disassemble all equipment and restore the site to original condition. Any noticeable surface defects, due to the executed Works, shall be repaired by the Contractor.

All excavations shall be backfilled and compacted to minimum density of 95% MOD ASSHTO, unless otherwise instructed by the Engineer or his duly authorized representative.

T1.10.2.12 Locating of services

The Contractor shall locate all services, known and unknown, within the vicinity of the ordered Works, using specialist equipment and if required exposing such by means of hand excavation. This shall be limited to where ordered Works may result in damage of such services, typically as may be the case

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

with the installation of a new meter and/or fitting or repositioning of an existing meter and/or fitting.

T1.10.2.13 Excavation

All secondary mains, erf connection, meter and fitting excavations shall be with SANS 1200DB but performed by hand, unless the Contractor can demonstrate to the satisfaction of the Engineer or his duly authorized representative that hand excavation is impossible and/or impractical.

T1.10.2.14 Replacement of an existing meter or fitting

In-situ replacement of an existing meter or valve or fitting shall occur where such has been identified as defunct and the Contractor ordered to execute its replacement. The Works shall include removing the defunct meter or valve or fitting, cleaning existing pipework and fittings and installation of replacement meter or fitting.

New and existing pipe(s) and fitting(s) shall be properly bedded as per SANS 1200LB on a Class B bedding and excavations shall be backfilled and compacted to minimum 90% MOD AASHTO.

During the replacement activity any defunct meter, valves, pipes, fittings, surface box or chamber, within the Works area and forming part of the Employer's infrastructure shall be identified by the Contractor and prior written approval shall be obtained for its replacement.

Testing of the complete connection affected by the ordered Works shall be in accordance to SABS 1200L sub-clause 7.3.

T1.10.2.15 Chamber frame and cover replacement

The Contractor shall replace an existing chamber frame and cover with a new frame and cover, including: removing the existing frame and cover, cleaning of frame and cover, check integrity of existing brickwork, removing loose brickwork, preparing area to patch brickwork or concrete, and placing and leveling the new frame and cover in mortar per the standard detail drawings.

T1.10.2.16 Spoiling of material

No indiscriminate spoiling of material by the Contractor shall be allowed. All surplus or unsuitable material shall be spoiled at a site located by the Contractor, deemed by the Engineer as compliant with legislative requirements.

T1.10.2.17 Chamber appurtenances**T1.10.2.17.1 Frames and covers**

Chamber frames and covers shall conform to the applicable standard SANS 558 requirements, however such covers and frames shall:

- be blue polymer reinforced concrete castings for water;
- be for the appropriate duty (for the installation location; i.e. light, medium and heavy) watertight type and bolt-hinged lid as noted on the standard detail drawings;
- have a cover and seat that shall have machined bearing surfaces to prevent rocking and rattling;
- have the Employer's brand (logo only) cast on;
- be solid; and
- have a concealed pick hole for all water chambers.

T1.10.2.17.2 Chamber step irons

Chamber step irons shall conform to the applicable standard SANS requirements, but shall be:

- spaced at 300mm centres;
- distanced not exceed 600mm between the top of casting and the first step; and
- plastic or similar approved.

T1.10.2.18 Chamber bedding**a) Precast chamber forms**

Precast chamber form bases shall be bedded on granular material or acceptable undisturbed foundation material.

b) Cast-in-place chambers

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Concrete bases shall be poured on granular material or acceptable undisturbed foundation material.

T1.10.2.19 Concrete, formwork and reinforcement

NOTA BENE: All in situ concrete work (mass and reinforced) shall comply with SANS 1200G ("8.Measurement and Payment" is not applicable) supplemented by the clauses in this section. Where:

- SANS 1200G and the clauses in this section are in conflict, the clauses in this section shall take precedence.
- the term "plain concrete" appears in SANS 1200G it shall be read as "mass concrete".

T1.10.2.19.1 Cement

Cement shall be Portland cement (or similarly approved) complying with the requirements of SANS 50197-1/EN 197-1 or SANS 5831.

Samples of cement from any one, or from every consignment, may be required by the Engineer or his duly authorized representative for test purposes. Cement in any consignment from which a sample may have been taken for testing shall not be used until it has been approved. Allowance shall be made for possible delay in that tests may take 10 days to carry out.

Bags of cement shall be stacked in a waterproof, solidly constructed shed with a central door and a floor rendered damp-proof with a tarpaulin. The bags of cement shall be closely stacked (but not against walls) in order to reduce air circulation in such a manner that the cement is used in the order in which it was received, i.e. *first in first out*.

Unless otherwise specified in the these documents the use of ordinary Portland cement blended with ground granulated blast furnace slag complying with SANS 1491, or ordinary Portland Cement blended with Pulverised Fly Ash complying with SANS 50197-1/EN 197-1 shall be allowed in certain instances as an alternative, after acceptance of tender offer, but only with the approval of and at the sole discretion of Engineer. If not so specified in the documents the Contractor must demonstrate a saving in favour of the Employer together with this alternative.

T1.10.2.19.2 Sand (Fine aggregate)

The fine aggregate shall comply with the requirements of SANS 1083. Other aggregates may be approved if they have a satisfactory history and/or test results.

No aggregate may be used until it has been approved. Samples having a mass of 25kg (16,5l) of the aggregate proposed to be used may be required by the Engineer or his duly authorized representative for test purposes. Samples having a mass of 25kg shall be forwarded every 3 months during concreting work and also if the source of supply is changed. Allowance must be made for possible delay in that the tests may take 14 days to carry out.

T1.10.2.19.3 Stone (Coarse aggregate)

- a) The coarse aggregate shall comply with the requirements of SANS 1083. No aggregate may be used until it has been approved. Samples having a mass of 25kg (16,5l) of the aggregate it is proposed to use may be required by the Engineer or his duly authorized representative for test purposes. Samples shall be forwarded every 3 months during concreting work and also if the source of supply is changed. Allowance must be made for possible delay in that the tests may take 14 days to carry out.

NOTA BENE: Certain fine grained sand and stone originating from the Beaufort Series and Karoo Systems which are known by reputation, local experience or tests, to exhibit excessive shrinkage when used in concrete, may be deemed unacceptable by the Engineer or his duly authorized representative.

- b) A certificate of proof is required from the Contractor that the aggregates are not alkali-reactive. The cost of testing and certification are to be borne by the Contractor.

T1.10.2.19.4 Concrete

Concrete shall be of the classes given in the following table. The proportions of the ingredients and the nominal size of the coarse aggregate for each class shall be as laid down therein:

Class	Cement	Aggregate	
Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

	Part	Fine Part	Coarse Part	Size	Strength (MPa)
A	1	4	8	50	10
B	1	3	6	38	15
C	1	3	6	19	15
D	1	2	4	38	25
E	1	2	4	19	25
F	1	1 1/2	3	19	30
G	1	1	2	19	40

The strength given in the above table shall be the minimum required at 28 days. Unless otherwise specified Class B concrete shall be used for mass concrete and Class E concrete for reinforced concrete.

Maximum concrete slumps acceptable for different types of construction concrete are as follows:

- a) Vibrated reinforced concrete = 50mm
- b) Un-vibrated reinforced concrete = 75mm
- c) Mass concrete = 75mm

When so required by the Engineer or his duly authorized representative, and whilst concreting is in progress, the consistency of the mixture shall be ascertained by means of the slump test as later described herein.

T1.10.2.19.5 Volume batching

The coarse and fine aggregate shall be measured by volume and, unless otherwise directed, cement shall be measured by mass: the volume of a 50 kg bag of cement shall be taken as 33l. Suitable measuring boxes for the coarse and fine aggregates shall be provided to the approval of the Engineer or his duly authorized representative.

The proportions given above are approximate only, and should the Engineer or his duly authorized representative consider that the voids in the coarse aggregate require more or less matrix than is formed by the proportions specified, he may vary the quantities of coarse and fine aggregates to obtain the required density and workability of the concrete, provided that the proportion of cement to the total volume of the aggregate shall not be less than that specified.

When the sand is not completely dry, allowance must be made for bulking due to the moisture content. The amount of bulking shall be determined by the Contractor in the presence of the Engineer or his duly authorized representative.

The amount of water shall never exceed 34l to every bag of cement used, including the water contained in the sand.

Effective screens shall be provided to protect the mixing of concrete during windy weather.

T1.10.2.19.6 Weigh batching

The proportioning of the coarse and fine aggregates by mass shall be permitted, providing the method used is approved by the Engineer or his duly authorized representative.

- a) All requests received by the Engineer or his duly authorized representative to make use of weigh batching shall be submitted to the Structural Engineer for approval.
- b) If the weigh batching process is preferred to volume batching, the proposed mix proportions are to be equivalent to the relevant volumetric mixes as documented previously herein and be based on a minimum cement content.
- c) The following procedures must be complied with:
 - i) The Contractor must timeously obtain written approval for the use of weigh batching and submit all information as set out below, with his application.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

- ii) The mix transformation from volume to weigh batching shall be carried out at an approved laboratory.
- iii) Weigh batching equipment must be calibrated and a certificate of accuracy must be submitted before such equipment may be used. On contracts of long duration and/or requiring large quantities of concrete, new calibration certificates may be required every four months.
- iv) The cement to aggregate ratio by volume for the following mixes shall apply:
 - Class C (15 MPa) - c/a = 1:9
 - Class E (25 MPa) - c/a = 1:6
 - Class F (30 MPa) - c/a = 1:4.5
 - Class G (40 MPa) - c/a = 1:3
- v) The following cement/water ratios by mass must also be complied with:
 - Class C (15 MPa) - c/w = 1.30 to 1.35
 - Class E (25 MPa) - c/w = 1.65 to 1.80
 - Class F (30 MPa) - c/w = 1.90 to 2.05
 - Class G (40 MPa) - c/w = 2.30 to 2.50

T1.10.2.19.7 Ready mixed concrete

Any application to use ready mixed concrete shall be submitted by the Contractor at an early stage for approval by the Structural Engineer. Only suppliers on the Employer's approved list shall be considered.

New applications must be submitted to the Employer, well in advance.

T1.10.2.19.8 Strength concrete

The Contractor shall be responsible for the design of strength concrete and for the measurement of the constituent materials to produce concrete that complies with the specified requirements.

a) Trial mixes

The Contractor shall ensure that samples of the constituent materials of the concrete, together with evidence that they comply with the provisions, are supplied for approval in good time and provide the Engineer or his duly authorized representative with:

- i) a statement from an approved independent laboratory of the results of tests; or
- ii) an authoritative and acceptable report, or record of the previous use of and experience with, the material concerned.

The cement, types of aggregate and their origins shall not be changed throughout the duration of the Contract without giving prior notification to the Engineer who shall verify that the above requirements are complied with and that the important qualities of the concrete shall not be impaired.

b) Consistency

Unless otherwise indicated by the general workability of the concrete, method of transportation, conditions of placement or otherwise specified by the Engineer, the suggested slump values, for different mixes of concrete shall be as specified in this document.

c) Workability

Ensure that the concrete is of such workability that it can be readily compacted into the corners of the formwork and around reinforcement without segregation of the materials and without excessive "bleeding" of free water at the surface.

T1.10.2.19.9 Expansion alkali-aggregate reaction

The use of some local aggregates may lead to an expansive alkali-aggregate reaction if the concrete in the structure shall be exposed to continual dampness, or shall be subject to alternate wetting and drying.

Alkali reactive aggregates, i.e. certain granites, quartzites and Malmesbury hornfels (shale), shall not be used in conjunction with high alkali cement for concrete in any part of the works. Where a high

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

alkali cement shall be one in which the equivalent alkali content exceeds 0,60% by mass of the cement.

If the Contractor chooses to use one of the aggregates stated above in lieu of stone as described in this document he shall:

- ensure that no high alkali cement is delivered to the site. Any such high alkali cement shall be rejected and the cost of its removal and replacement with cement having an acceptable alkali content shall be borne by him.
- provide certificates stating the alkali content of each delivery of cement to the site, based on tests carried out at a laboratory approved by the Engineer. The cost of testing, including sampling, transporting of samples and issuing of certificates, shall be borne by him.
- be entitled to use an approved brand of cement as a means of ensuring that the permissible alkali content is not exceeded. Where he shall make allowance for the higher price of such approved brand, if he chooses to use this method.

T1.10.2.19.10 Pumping of concrete

The placing of concrete by pumping in any section of the works shall be subject to the written approval of the Engineer or his duly authorized representative. The Contractor shall furnish full details regarding the mix proportions of the concrete that he intends to place by pumping.

T1.10.2.19.11 Admixtures to concrete

The use of admixtures in concrete shall only be considered should special circumstances warrant this and only with the prior written approval of the Engineer. The Contractor shall provide the following information:

- the trade name of the mixture, its source and the manufacturer's recommended method of use;
- typical dosage rates and possible detrimental effects of both under and over dosage; and
- the expected average air content of freshly mixed concrete containing an admixture which causes air to be entrained when used at the manufacturer's recommended rate of dosage.

T1.10.2.19.12 Slump test

The apparatus and the method of determination of the slump of freshly mixed concrete shall comply with SANS 5862-1.

a) Apparatus

- A mould in the form of a frustum of a cone and having the following nominal internal dimensions:

- Bottom diameter : 200mm
- Top diameter : 100mm
- Height : 300mm

The mould shall:

- be of a metal (other than brass or aluminum) of side thickness at least 1.6 mm and shall have a smooth internal surface.
- have suitable base plate and handles to facilitate lifting it from the test specimen in a vertical direction.

- The tamping bar shall have a nominal diameter of 16mm, a length of 600mm and with sharp corner rounded off at one end.

b) Procedure:

The test shall be carried out in an area that is free from vibration and shocks. Ensure that the internal surfaces of the mould are free from set concrete and are clean and dry.

Place the mould with the bottom on a smooth, horizontal, rigid, non-absorbent surface and hold the mould firmly in place while it is being filled as follows:

- in four layers, each thickness approximately one-quarter of the height of the mould. Tamp each layer with 25 strokes uniformly spaced over the cross-section of the mould. Tamp the bottom layer throughout its depth and ensure that when tamping the second and subsequent layers the strokes penetrate into the underlying layer.
- after the top layer has been tamped, strike off the concrete level so that the mould is exactly filled. Clean off any concrete that may have leaked out between the mould and the supporting

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

base-plate surface. Remove the mould from the concrete immediately by slowly and carefully raising it in a vertical direction. This shall allow the concrete to subside.

Immediately measure the slump, to the nearest 5mm, by determining the difference between the height of the mould and the height of the specimen.

Regard the test as invalid, if a slump specimen collapses or shears off laterally, discard the result and repeat the test.

T1.10.2.19.13 Concrete cubes

The apparatus for making and testing of concrete cubes shall comply with SANS 5863.

a) Apparatus

Cubic metal moulds shall:

- be steel;
- be machined and adequately strengthened to resist distortion;
- have an internal distance between faces of 150mm;
- be constructed so as to facilitate the easy removal without damage of the moulded specimen; and
- have a metal base plate which shall be attached to the mould by springs or screws.

When assembling the mould for use, the joints between the sections of the mould, the contact surfaces between the bottom of the mould and the base plate, and the internal faces of the assembled mould shall be thinly coated with a grease or oil that shall prevent leakage of water through the joints and adhesion of the concrete to the mould.

The tamper must be a steel bar of length 400mm and mass 1.8kg, and having a 25mm square ramming face.

b) Sampling and making cubes

Sampling shall comply with SANS 5861-2.

One set of 3 cubes shall be required for every 40m³, or part thereof, of concrete cast. The sample taken from a batch of concrete and sufficient to make 3 cubes shall be placed in a tray or on a platform and mixed thoroughly.

The moulds shall each be filled in 3 layers of approximately 50mm thick concrete. Each layer shall be compacted with the tamping rod, with at least 35 blows to give full compaction of the concrete.

After the top layer has been compacted, strike off the surface of the concrete with a trowel, level with the top of the mould.

Any small hollows shall be filled in with additional concrete. Cement/sand slurry shall not be worked into the surface.

At this stage, the identity of each sample shall be placed on the moulded cube, by means of a label of absorbent material and not by scouring of the surface of the concrete.

c) Curing cubes on site

Cover the test cubes in their moulds with an impervious sheet or wet sacking and store indoors in a place that is free from vibration, excessive draughts, cold and direct sunlight.

After 24 hours the cubes shall be demoulded, remarked with a waterproof crayon or marker and placed in a curing tank for 7 days before being transported to the laboratory.

The Contractor shall supply the curing tank which shall incorporate a thermostat to control the water temperature at 22 to 25°C and shall be kept within a building.

d) Testing of cubes

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

The testing of all concrete cubes shall be done in accordance with SANS 5863 by a laboratory approved by the Engineer.

A suitable testing machine of sufficient capacity having an accuracy and repeatability that comply with the requirements for Grade A machines of BS 1610 "Method for the load verification of testing machines" shall be used to test the compressive strength of each cube.

The Contractor is responsible for the provision of the cube moulds and for timeous delivery of the cubes to the laboratory.

T1.10.2.19.14 Concrete quality

Should the Contractor dispute any results obtained from concrete test cubes, the concrete represented by the cubes shall be considered acceptable if the Contractor, at his own cost, proves to the satisfaction of the Engineer that the estimated actual strength of cores taken from the structure (by an approved independent testing laboratory and determined in accordance with SANS 5865 is not less than the specified strength. If the concrete fails to meet the strength criteria stipulated, the Engineer may at his sole discretion and in addition to the options listed in SANS 1200G:

- accept the concrete subject to approved remedial measures being undertaken by the Contractor at his own cost; or
- permit the concrete to remain, subject to reduced payment for lower strength concrete.

T1.10.2.19.15 Concreting

It is essential that the Contractor representative who has charge of the construction of all concrete work, whether reinforced or not, shall be skilled in this class of work, and shall personally supervise the whole construction, paying special regard to:

- the quality, testing and mixing of the materials;
- the laying of the material in place and the thorough compaction of the concrete to ensure solidity and freedom from voids;
- the construction and removal of formwork; and
- the sizes and positions of the reinforcement.

Particular care shall be taken to work concrete against formwork and around reinforcement. Internal vibrators may be used with the approval of the Engineer or his duly authorized representative but external vibrators which act only on the formwork WILL NOT be permitted.

Concrete to be reinforced shall be deposited in such quantities as shall permit of it being properly compacted around the reinforcement.

The placing of concrete shall be completed within ½ hour after mixing or within ½ hour after agitating and within 2,5 hours after mixing in the case of ready mixed concrete. Under no circumstances shall concrete be incorporated into the work after it has attained its initial set.

Care shall be taken to prevent, as far as possible, the formation of laitance or scum. Laitance is to be understood to mean the scum of strengthless and inert material which forms on the surface of concrete.

Concrete shall not be dropped into position from a height greater than 2.5m unless prior approval is obtained from the Engineer.

If an inclined chute is used for transporting concrete, it shall be of such slope as shall ensure a continuous flow of concrete without the use of an excessive quantity of water and without segregation of the aggregates. The chute must be flushed out and properly cleaned before and after each working period. All waste from flushing shall be discharged outside the formwork.

In beams, each portion of a successive layer shall be placed as soon as the concrete below has been properly worked around reinforcement and against formwork. Concreting shall be carried forward in irregular steps, that is to say, one layer shall not be completed over the whole section before the succeeding layer is commenced. Concreting of slabs and beams shall, as far as possible, be carried

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

forward in one operation. When concreting has to be interrupted the concrete shall be left with a level, rough top surface with ends vertical. The concrete shall not be merely sloped down.

On resuming concreting, the old surface shall be roughened and all laitance thoroughly and carefully removed before any new concrete is deposited. This must be carried out by brushing the surface of the concrete while it is still green. Great care must be taken to avoid any weakness at the junction of old and new concrete, and the old surface shall be coated with a thin layer of cement and sand mortar, in the same proportions as that of the adjoining concrete.

While the concrete is setting it shall not be disturbed or shaken by traffic, either on the concrete itself or upon adjoining formwork.

No holes in concrete elements shall be patched or filled in without inspection, instruction and approval of the Engineer or his duly authorized representative.

No concreting shall be carried out when the air temperature is below 4°C when it is rising and 8°C when it is falling.

Before concreting is commenced the Contractor shall give the Engineer or his duly authorized representative 24 hours notice of his intention to do so. On sites further than 200km from the Engineer or his duly authorized representative, 48 hours notice must be given.

Concrete surface beds, excluding heavy industrial floors etc. shall be Class C concrete and shall be laid in suitable size panels not exceeding 20m² in area and with the length of any panel not exceeding 4.5m.

Where concrete beams are supported on concrete columns, the columns are to be concreted up to the underside of such concrete beams and then concreted up to the top of the beams, integral with the beams.

NOTA BENE: Any finish applied to the surface of concrete floors, is to be understood as being additional to the thickness of the concrete described or shown on the drawings.

T1.10.2.19.16 Curing of concrete

After the concrete has been placed, all exposed surfaces shall be kept continuously damp for at least 10 days by methods as may be approved by the Engineer or his duly authorized representative, such as covering with approved building paper, or by means of wet canvas, wet sacks, wet sand, by continuous hosing or ponding with water.

T1.10.2.19.17 Concrete lintels (cast in-situ)

Concrete lintels cast *in-situ* shall be of Class E concrete, reinforced with steel reinforcement as well as of depths specified in the table hereunder. Each lintel shall be the full thickness of walls into which they are cast and 450mm longer than width of openings.

Clear or daylight span	Depth in brick courses	Reinforcement
< 1m	3	Nil
≥ 1m ≤ 1.5m	3	One 12mm diameter mild steel rod, 40mm up from bottom, for each half brick width of soffit.
> 1.5m ≤ 2m	4	One 16mm diameter mild steel rod, 40mm up from bottom, for each half brick width of soffit.
> 2m	To detail	To detail.

T1.10.2.19.18 Building on concrete footings and beams

No brickwork, stone walling or other structure shall be built on concrete footings until at least 3 days after placement of the concrete in the case of mass concrete footings and after 7 days in the case of reinforced concrete footings or as may otherwise be directed by the Engineer or his duly authorized representative.

No brickwork, stone walling or other structure shall be built on reinforced concrete beams or similar members until the formwork and all propping or supports have been removed.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.10.2.19.19 Slip joints between concrete and brickwork

Slip joints shall be provided between brickwork and concrete slabs and beams by levelling up and trowelling smooth the bearing surfaces of brickwork with 3:1 cement mortar and covering the bearings before the concrete is cast, with two layers of one side smooth tempered hardboard, with the smooth sides in contact.

The ends and sides of beams and edges of concrete slabs shall be separated from the brickwork with 13 mm thick bitumen impregnated softboard or expanded polyethylene strips placed vertically against the brickwork before the concrete is cast.

Similar slip joints shall be provided between brickwork and concrete lintels cast *in situ*, but without softboard or expanded polyethylene strips at ends.

T1.10.2.19.20 Movement joints

All movement joints are to be filled in with approved bitumen impregnated softboard or expanded polyethylene strip unless otherwise specified or detailed on drawings. Form similar movement joints where pathways adjoin structures externally.

T1.10.2.19.21 Cutting, punching or hacking concrete

No reinforced concrete shall be cut or hacked without the approval of the Engineer or his duly authorized representative.

T1.10.2.19.22 Forming key to concrete for plaster and other finishes

Where rough formwork has been used, surfaces of concrete to receive plaster and other finishes, shall, immediately after the formwork has been removed, be well wetted and wire brushed whilst the concrete is still green and then slushed over with 2:1 cement grout to form a key for the finish, all to the approval of the Engineer or his duly authorized representative. The slushing is to be allowed to set hard before the finish is applied.

Where smooth formwork is used, surfaces of the concrete to receive plaster and other finishes shall be hacked, on the distinct understanding that hacking of concrete shall be at no extra cost.

Surfaces of concrete receiving plaster or other finishes shall not be plastered or finished until the Engineer or his duly authorized representative has signified his opinion that the surfaces are suitable to receive plaster or other finishes.

T1.10.2.19.23 Sleeves pieces

Where it is necessary to leave plugs or holes in beams, slabs or any other reinforced concrete, all such plugs or holes must be situated in positions approved by the Engineer or his duly authorized representative before concreting. Where it is necessary to carry pipes, bolts, wires or any other fittings through reinforced concrete members, approved pipe sleeves must be provided and placed in position before concreting.

Where waste, ventilation, water, heating or other pipes less than 100mm diameter pass through concrete slabs and beams, uPVC (class 16) sleeve pieces of diameters shown or required shall be cast into such concrete slabs and beams.

Chases shall be formed in edges of slabs or slots shall be formed in the slabs, of sizes required, where two or more pipes pass through together.

All necessary bolts, plugs, brackets, cramps, etc. shall be cast into the concrete as the work proceeds.

T1.10.2.19.24 Ties

Where brickwork abuts against concrete, the brickwork is to be tied to the concrete with galvanized hoop-iron ties 1.6mm thick by 3mm wide and approximately 600mm long to every third course of brickwork with one end of each tie cast approximately 150mm deep into the concrete. Where such fixing is impossible, i.e. where steel formwork is used, the ties are to be gun-nailed against concrete with steel nails not less than 38mm long.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.10.2.19.25 Bagged finish to concrete

Concrete surfaces to receive bagged finish shall be prepared by removing sharp projections and making good defects with 3:1 cement mortar. Finish by rubbing over the whole area with wet rough sacking and cement grout to obtain an even surface.

T1.10.2.19.26 Power floated finish

Power floated finish to floors or slabs means that surfaces shall be floated mechanically to a smooth and even finish before the concrete has set. Small areas inaccessible to the machine are to be floated by hand. Under no circumstances is cement mortar to be added while floating the concrete.

T1.10.2.19.27 "No-fines" concrete

"No-fines" concrete, for grading flat concrete roofs and the like to falls, shall be in the proportion of 12 parts 19 iron cubical stone to 1 part cement mixed with 20l water per bag of cement and be laid to falls of not less than 15mm per linear metre for mastic asphalt and not less than 20mm per linear metre for sheet roof covering. For heavy load applications special mix designs may be required.

a) Fillets against upstands

Form triangular fillets, size 75 x 75mm, in corners with walls, kerbs, etc. neatly mitred at angles, stopped where necessary and finished smooth ready to receive waterproofing.

b) To raised floors, bases and other

"No-fines" concrete for raised floors, bases, etc. shall be in the proportions specified. Finish smooth with 3:1 sand/cement screed to receive waterproofing.

T1.10.2.19.28 Cellular concrete

Cellular concrete, for grading flat concrete roofs and the like to falls, shall be laid in situ in required layers; the bottom layer having a density of 400kg/m³, dressed to falls by varying the thickness, and a 20mm thick top layer having a density of 960kg/m³.

T1.10.2.19.29 Formwork

Formwork shall include all shuttering, casing and centring of material required for the laying and forming of concrete floors, slabs, beams, lintels, walls, steps, columns, piers, pilasters and any other concrete work requiring moulds or forms and shall embrace all cleats, battens, fillets, wedges, struts, trestles, braces, props, shores and other requirements of material for keeping all in correct position. All materials used for formwork must be suitable and substantial and all joints must be tight enough to prevent leakage of liquid matrix.

All formwork must be designed by the Contractor and if requested to do so, he must submit fully detailed and dimensioned working drawings to the Engineer or his duly authorized representative for checking purposes. Acceptance of the proposals shall not relieve the Contractor of his responsibility for the safety and stability thereof nor for any loss or damage arising out of defective design, materials and/or workmanship.

The formwork must be so constructed that its partial removal can be carried out to the satisfaction of the Engineer or his duly authorized representative and in such stages as are required by the working conditions. As far as possible, wedges and clamps must be used in preference to nails. All formwork in its various sections for floors, beams, etc. must be so arranged that the whole may be raised or lowered either independently or together with other sections by means of wedges or other approved methods.

Immediately before concreting is begun, the formwork in contact with the concrete must be thoroughly cleaned, wetted and kept damp whilst the concrete is being placed.

Great care must be taken to keep the formwork wedged up to its correct height and this must be checked by taking levels immediately before concreting is commenced and immediately after it has been completed.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

All beams shall have a camber of 6mm to every 3m of length.

The minimum periods that the formwork to the various parts of the structure is to remain in position after concreting shall be as stated in the following table:

Description	Normal cement		Rapid hardening cement	
	Weather		Weather	
	Normal	Cold	Normal	Cold
Beam sides, walls, unloaded columns	2 days	4 days	1 days	2 days
Slabs with props left under	4 days	7 days	2 days	4 days
Beam soffits with props left under including ribbed Slabs	7 days	12 days	3 days	5 days
Removal of slab props	10 days	17 days	5 days	9 days
Removal of beam props	14 days	28 days	7 days	12 days

When determining the stripping time for formwork the weather shall be considered to be "normal" when the temperature is above 18°C and "cold" when the temperature is between 5°C and 10 °C, these being the average daily temperatures of the atmosphere adjacent to the concrete. When the average daily temperature lies between the above values for "normal" and "cold" weather the minimum period for stripping of formwork shall be determined by the Engineer or his duly authorized representative.

Notwithstanding the above minimum periods, formwork may be struck immediately, once the concrete in the various parts of the concrete work has attained the crushing strengths required by the Engineer or his duly authorized representative. The crushing strengths must be determined by proper tests, which shall be carried out by the Contractor.

No formwork of any nature shall be struck, either after the elapse of the minimum periods stated in the above table or on the attainment of the required crushing strengths of the concrete, without the prior consent of the Engineer or his duly authorized representative. Such consent shall not absolve the Contractor of his responsibility for the safety of the works.

In structures having either in whole or in part, two or more reinforced concrete floors, props shall be provided under the soffits of any beam or slab of any floor which is being used to support the formwork and wet concrete of the floor above, all to the approval of the Engineer or his duly authorized representative. The props shall not be removed until the formwork supporting the concrete of the floor above has been struck.

Under no circumstances shall steel formwork be oiled where concrete is to receive plaster.

T1.10.2.19.30 Smooth formwork

Smooth formwork shall be any material approved by the Engineer or his duly authorized representative which is to be used to leave concrete surfaces smooth when removed and where no other finish is to be applied.

T1.10.2.19.31 Reinforcement rods

a) Mild steel

Mild steel shall comply with the requirements of SANS 920, Type A or B.

b) High tensile steel

High tensile steel shall comply with the requirements of SANS 920, Type C or D.

T1.10.2.19.32 Concrete reinforcement

a) Rod reinforcement

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Bending and hooking of rods shall be done in accordance with SANS 282. Rods shall be bent cold in an effective bending machine, or properly designed rod-bender using a steady pressure and not by hammering.

Diameters, lengths and positions of rods as shown on the drawings must be strictly adhered to. Joints in rods in beams, stairs, etc. shall be permitted only where shown on drawings.

Before being placed in position, the rods shall be thoroughly cleaned of all grease, dirt, bituminous material, scale and loose rust.

All distribution rods shall be straight and shall extend at least 150mm into beams or other support. Unless otherwise shown on the drawings, all joints in reinforcing rods shall be lapped 40 times the diameter of the rod. The laps shall be securely tied with 1.25mm diameter annealed mild steel binding wire.

Reinforcement for piles, column footings, columns and walls shall be tied at every intersection, or as directed or shown on drawings, with similar binding wire. Reinforcement in beams shall be tied at alternate intersections in a diamond pattern, unless circumstances demand every intersection.

Great care must be taken to retain the reinforcement in its correct position during the entire period of concreting. Blocks of fine concrete, size approximately 40 x 40mm, or plastic spacers, shall be provided on the formwork to soffits of beams to ensure that the rods are retained in position and that the correct concrete covering to the main reinforcing rods is provided. The blocks shall be of thickness required and shall be placed under the main reinforcing rods at approximately 600mm centres. Reinforcement in the top of slabs and the like shall be retained in position by means of cradles (stools), formed of steel reinforcing rod as follows:

- R10 for height range 100-300mm and maximum width of 300mm.
- R12 for height range 310-500mm and maximum width of 45 mm.

Recommended spacing of supports for horizontal bars in slabs:

- not further than 600mm apart (cradles ± 1000 mm c/c in both directions) for bar diameters up to 12mm.
- not further than 1,000mm apart (cradles $\pm 1\ 500$ mm c/c in both directions) for bar diameters of 16mm and over.

Stools are to be placed on the bottom layer of reinforcement, securely retained in position and with correct concrete cover as specified. Cradles are to be securely wired to the slab reinforcement with binding wire. Beam rods in different layers shall be separated by means of steel spacer bars of suitable diameters and lengths.

Double mats in concrete walls shall be kept in their respective positions by means of suitable steel clips.

Recommended spacing of supports for vertical bars in walls:

- 1,000mm centres in both directions for bars up to 12mm diameter; and
- 1,500mm centres in both directions for bars of 16mm diameter and over.

Supports can be spaced more closely by the design Engineer, depending upon the circumstances. All stirrups shall be properly fastened to the rods so as to retain their relative positions during the entire period of concreting.

Welding of main rods shall not be permitted unless approval has been given by the Engineer or his duly authorized representative. Spot welding in lieu of wiring may be used to secure rods and stirrups in position.

The concrete covering the main reinforcement, unless otherwise specified, shall not be less than that stated in the following table:

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Position	Amount of cover
Soffit of slabs	The diameter of the main rods, but never less than 15mm (mm)
End of beams	40
Soffits of beams	40
Sides of beams	40
Sides of columns	40
Slab underground	40
Concrete walls	25
Walls exposed to ground	40
Ground beams	40
Foundations	75
Water retaining structures and within 1 km from coast	50

In cases not included in the above table the cover shall be not less than 25mm. Depending on the condition of exposure and fire resistance requirements, concrete cover can be varied by the Engineer but in no case shall the concrete cover be less than the diameter of the rod to be covered.

The cover shall be measured from the face of the concrete to the outside of main reinforcement nearest the face of the concrete, and shall exclude plaster and similar finishing materials.

Three samples of each diameter of reinforcing rods, each approximately 600mm long, must be taken from each consignment of rods of similar diameter, for testing. If any sample is found unsatisfactory, the whole consignment of rods from which the samples were taken shall be rejected.

Top reinforcement in cantilever slabs to be kept in position with a first row of stools or chairs 300mm from the beam or support, and thereafter at a maximum of 40 bar diameters under each bar.

The cover blocks, spacers, bars and stools or chairs are to be placed and/or wired in position by the steel fixer.

Welded steel fabric reinforcement

All welded steel fabric reinforcement shall comply with the requirements of SANS 1024. The preferred dimensions are as follows:

1	2	3	4	5	6
Fabric Reference number	Nominal pitch of wires	Nominal diameter of wires		Nominal mass*	
	Longitudinal (mm)	Cross (mm)	Longitudinal (mm)	Cross (mm)	kg/m2
617	200	200	10.0	10.0	6.17
500	200	200	9.0	9.0	5.00
395	200	200	8.0	8.0	3.95
311	200	200	7.1	7.1	3.11
245	200	200	6.3	6.3	2.45
193	200	200	5.6	5.6	1.93
100	200	200	4.0	4.0	1.00
772	100	200	10.0	7.1	7.72
655	100	200	9.0	7.1	6.55
517	100	200	8.0	6.3	5.17
433	100	200	7.1	6.3	4.33
341	100	200	6.3	5.6	3.41
289	100	200	5.6	5.6	2.89
278	100	300	6.3	4.0	2.78

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

226	100	300	5.6	4.0	2.26
133	100	300	4.0	4.0	1.33

*These mass values are based on the wires having mass of 0,00785 kg/mm² per metre of length.

The actual mass of the fabric should not differ from the nominal value by more than 6%.

T1.10.2.20 Precast concrete**T1.10.2.20.1 Materials**

Cement, water, aggregates and reinforcement shall be as described under the concrete section.

T1.10.2.20.2 Concrete, formwork and reinforcement**T1.10.2.20.3 Concrete**

Concrete shall be as described under the applicable concrete section(s). Unless otherwise specified a Class E concrete shall be used but with coarse aggregate of an appropriate size.

T1.10.2.20.4 Mould units

The whole of this work is to be carried out by a specialist, who has appropriately skilled workers in this class of work.

All materials and finishes are to be to the approval of the Engineer or his duly authorized representative.

The moulds are to be properly constructed in the best and most up to date practice, made up in suitable sections with all necessary reinforcement, cramps, bands, bolts, etc. for fastening together and are to be constructed so that castings can be easily removed and the moulds re-used without distorting.

Those sections of the moulds which shall produce the finished faces of the units are to be specially prepared, perfectly smooth, except where the finish is of exposed aggregate, true to shape and coated with a suitable solution which shall prevent units adhering to the moulds, while not in any way discolouring the finished surfaces.

All cast units are to be properly cured and no units are to be fixed or built in until 28 days after casting.

Units are to be properly protected from the elements while curing and are to be kept wet for at least 10 days after casting by frequent spraying with clean water.

Form all necessary checkings, mortices, lugs, etc. for cramps and dowels when casting.

T1.10.2.20.5 Terrazzo blocks

Precast terrazzo work shall be generally as prescribed for precast concrete above. The coarse aggregate of the mix of which blocks are to be formed shall be of 10mm stone. The finish to exposed faces shall be 10mm thick.

T1.10.2.20.6 Smooth finish

Where described as "finished smooth from the mould" such surfaces shall have a layer composed of 1 part (volume) cement and 4 parts (volume) clean fine sand, packed against the faces of the mould before placing the concrete backing. The concrete backing shall be deposited into the moulds in a wet state (not dry pressed) whilst the facing is still wet.

Projections shall be rubbed off and faces shall be of even colour and free from blemishes, cracks and other imperfections. Salient angles shall be arris rounded.

T1.10.2.20.7 Sizes

Sizes given are approximate, the Contractor shall be responsible for ascertaining the exact sizes based on actual measurements.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.10.2.20.8 Reinforcement

Unspecified reinforcement required for manufacturing, handling and erection purposes and for reinforcing projecting and other unwieldy portions of blocks shall be provided by the Contractor at his discretion, but such action shall be highlighted to the Engineer.

T1.10.2.20.9 Bedding, joint and pointing

Blocks shall be bedded and jointed solidly in cement mortar composed of 3 parts (volume) of sand and 1 part (volume) of cement and shall be pointed with slightly keyed joints.

T1.10.2.21 Masonry

(Including brickwork and stone masonry)

NOTA BENE: Where sizes in descriptions are given in brick units, "one brick" shall represent the length and "half brick" the width of a brick.

T1.10.2.21.1 Lime

Lime shall be hydrated bedding mortar lime in accordance with the requirements of SANS 523.

T1.10.2.21.2 Cement

Cement shall be as specified in the concrete section.

T1.10.2.21.3 Sand

Sand shall comply with the requirements of SANS 1090, unless specialist advice is obtained. A sample of 25kg must be delivered to an approved laboratory for testing purposes.

T1.10.2.21.4 Burnt clay bricks

- Burnt clay bricks shall comply with the requirements of SANS 227, and shall be equal in all respects to the selected samples.
- Clay bricks for foundations shall be as described in (a) above, but extra hard burnt.
- Where bricks with holes are used, the holes in such bricks must only be filled in solid with mortar where specifically specified.
- All bricks that do not carry the SABS Mark, must be tested by an approved laboratory.

T1.10.2.21.5 Firebricks

Firebricks shall be of well burnt refractory fireclay, resistant to spalling and cracking and of same size as ordinary bricks.

T1.10.2.21.6 Local stone

Local stone shall be from an approved quarry, free from defects and to the satisfaction of the Engineer or his duly authorised representative.

T1.10.2.21.7 Freestone

All freestone shall be the best and most durable of its kind, free from vents, loose beds, oxide veins and other imperfections to the satisfaction of the Engineer or his duly authorised representative and shall be set on its natural quarry bed.

T1.10.2.21.8 Mortar tests

a) Sampling

The frequency of sampling shall be decided by the Representative/Agent. Sufficient mortar shall be taken from each of the points of laying to prepare a composite sample to make a set of three mortar cubes.

b) Moulding

Cube moulds with a nominal size of 100mm, that comply with SANS 5863 must be used.

Fill each mould with mortar in three equal layers and compact each layer by means of a tamper. The tamper must be made of hard wood with a flat tamping surface with nominal dimensions of 50 x 25mm and shaped to provide a round stem of approximately 25mm diameter and long enough to afford sufficient hand grip. Immerse the tamper in water for 15 minutes before use.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Each layer of mortar must be compacted by means of 8 evenly spaced pressing strokes of the tamper. After the final layer has been tamped, the excess mortar must be struck off level with the top edges of the moulds.

c) Curing

Cover the test cubes (in their moulds) with an impervious sheet followed by wet matting, sacks or similar material, and store them in a place free from vibration, excessive draughts and direct sunlight. After 24 hours mark each cube so that it can be identified. After 48 hours the cubes shall be removed from their moulds and placed into water in a curing tank at 22 to 25 °C for a minimum period of 7 days before they are transferred to the approved testing laboratory. Ensure that loss of moisture is prevented during transportation and that they are well protected against damage.

d) Testing of cubes

The testing of all mortar cubes shall be done by a laboratory approved by the Engineer and in accordance with SANS 5863.

T1.10.2.21.9 Cement mortar

Cement mortar shall be composed of 6 parts (by volume) of sand and 1 part (by volume) of cement. The material shall be mixed dry until of uniform colour and then water added and the mixture turned over until the ingredients are thoroughly incorporated. Cement mortar shall be produced in such quantities as can be used before commencing to set as no cement mortar that has once commenced to set shall be used in any way.

Care shall be taken in mixing cement mortar to remove from the mixing machine or platform any old mortar that has already set as such mortar may not be incorporated into any new batch.

Mortar should achieve the minimum required strength (in MPa) for the classes of mortar as set out in the National Building Regulations.

T1.10.2.21.10 Compo mortar

Compo mortar shall be composed of 6 parts (by volume) of sand — depending on the quality of the sand available, 1 part of lime and 1 part of cement (by volume). The lime and sand shall be mixed dry, then mixed wet, before the cement is added, approximately ½ hour before using and the adding of the necessary additional water as required.

Compo mortar shall be produced in such quantities as can be used before commencing to set, as no compo mortar that has once commenced to set shall be used in any way.

Mortar should achieve the minimum required strength (in MPa) for the classes of mortar as set out in the National Building Regulations.

T1.10.2.21.11 Brickwork

Brickwork shall be:

- wherever practicable, built in English bond. No false headers shall be used and none but whole bricks employed, except where legitimately required to form bond.
- built level and plumb with mortar as specified.
- laid on a solid bed of mortar and all joints thoroughly grouted up solid throughout the whole width of each course.
- carried up in a uniform manner, no one portion being raised more than 1.2m above another at any one time.

Clay bricks shall be well saturated with water, in the stack or dump, approximately 2 hours before being used. The tops of walls left unfinished shall be well wetted before work recommences.

NOTA BENE: Cement or concrete bricks shall not be wetted.

All rough and fair cutting, cutting of splays, skewbacks, chamfers, etc. shall be properly performed.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Form or leave all necessary openings for pipes etc. and make good after pipes etc. are fixed in position.

T1.10.2.21.12 Brickwork in cement mortar

- a) All brickwork below damp course level, all isolated piers three bricks wide and under, half brick thick walls and chimney stacks above ceiling level, shall be built in cement mortar as specified.
- b) Brick arches and brick lintels shall be built in cement mortar as specified, but in the proportion of 3:1.

NOTA BENE: This clause is essential where compo mortar has been specified.

T1.10.2.21.13 Mortar joints

Mortar joints to brickwork generally shall be 10mm in thickness with level bedding joints.

The joints in brickwork:

- a) receiving plaster, tiling or similar finishes shall be raked out whilst the mortar is soft to form key for the plaster or mortar backing. The depth of the raking out shall depend on the condition of the bricks; i.e. the rougher the bricks on face the shallower the raking out and the smoother the bricks the deeper the raking out.
- b) shall be flushed off where walls are to be bagged, in readiness for the bagging.

T1.10.2.21.14 Grout in joints in brick foundation walls

All joints in brick foundation walls shall be grouted in solid with 3:1 liquid cement mortar to obviate any crevices for ant (termite) tracks.

T1.10.2.21.15 Brickwork thicknesses

Walls built in two or three half brick thicknesses shall only be built where bonded brickwork (as specified) proves impractical or where required due to the prescribed bond of faced brickwork, all tied together with metal ties in accordance with SANS 28, of the Butterfly Types only, of sufficient length to allow not less than 75mm of each end to be built into brickwork. Ties shall be evenly spaced at not more than 1m apart to every third course and staggered.

T1.10.2.21.16 Brickwork in linings

Brick linings to concrete shall be tied thereto with 4mm diameter galvanized crimped wire ties bent at ends and of necessary length to allow 75mm to be cast into concrete and 75mm of the other end to be built into brickwork and evenly spaced at not more than 1m apart to every third course and staggered.

T1.10.2.21.17 Half brick thick walls

Half brick thick walls shall be built in cement mortar (as specified) and reinforced with 75mm wide brick reinforcement (as specified), 1 row to every 8 course in height, and built 100mm into main connecting walls. The reinforcement shall be lapped 150mm at end joints, where these are necessary, and 75mm at angles.

Brickwork shall be built level and plumb.

T1.10.2.21.18 Beam filling

Beam filling shall be half brick thick, built up in mortar as used in the walls below, cut in between roof timbers and carried hard up to underside of roof covering and flushed up with mortar.

T1.10.2.21.19 Reinforced brick lintels

Reinforced brick lintels shall be built with sound machine made bricks in 3:1 cement mortar with all vertical and horizontal joints filled solid with mortar throughout the required number of courses and to a distance of at least 330mm on either side of the clear opening.

The number of courses in lintels over the various size openings shall be as specified in the table hereunder and reinforcing steel wires or rods shall be built into the first horizontal joint over the bottom course to the number specified in the following table:

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Clear or daylight span	Number of courses	Reinforcement
< 1m	4	One row 75mm wide brick reinforcement as described below, for each brick width of soffit.
$\geq 1\text{m} \leq 1.5\text{m}$	6	Ditto
$> 1.5\text{m} \leq 2\text{m}$	7	Three 6.3mm diameter mild steel rods for each half brick width of soffit.
$> 2\text{m} \leq 3\text{m}$	8	Ditto

Brick reinforcement shall be of hard drawn mild steel comprising two 2.8mm diameter main wires spaced 75mm apart and 2.5mm diameter cross wires spaced at not exceeding 300mm apart, welded to main wires.

The reinforcing wires and rods shall be of length at least equal to the width of the clear opening plus 330mm at each end. The reinforcement shall be evenly spaced in the brick joints with the outer wires or rods having at least 20mm cover from face of brickwork.

Brick lintels in 270mm thick cavity walls shall be built with inner face of outer thickness, for a depth of three courses above soffit, covered with sheeting as for dampcourse, the full length of lintels, and space between the two thicknesses for the depth of the sheeting filled in solid with Class E concrete. Where cavities continue above lintels, the sheeting shall be taken up and turned on to top of first course of brickwork to inner thickness of wall above the concrete filling in lintels. The sheeting is not required in lintels protected from the weather.

The lintels, except where built over pressed steel door frames and the like, shall be supported on temporary turning pieces of suitable and substantial construction left in position for at least 14 days for long spans (1 to 3m).

T1.10.2.21.20 Hollow tile lintels

Hollow tile lintels shall be formed with approved 300 x 220 x 110mm burnt clay hollow tiles each having not more than 3 cavities. The tiles shall be set end to end and the cavities filled up solid with Class E concrete.

Lintels shall have bearings of not less than 220mm on walls at ends.

The lintels over the various size openings shall be reinforced as specified in the following table:

Clear or daylight span	Reinforcement
$\leq 1\text{m}$	One 12mm diameter mild steel rod in upper and lower cavities
$> 1\text{m} \leq 1.5\text{m}$	One 16mm diameter mild steel rod in upper and lower cavities

The reinforcing rods shall be placed 12mm from top and bottom edges of concrete filling to upper and lower cavities respectively.

Lintels over openings not exceeding 1m wide in 1 brick thick walls shall be on flat and in all other cases shall be on edge using 2 or more lintels in walls 1 brick thick and over, built side by side, to make up the thickness of walls.

Lintels in 270mm thick cavity walls shall be in two 110mm thicknesses with inner face of outer thickness covered with sheeting as for damp-course, the full length and depth of lintel, and the space between the two thicknesses filled in solid with Class E concrete. Where cavities continue above lintels the sheeting in lintels shall be taken up and turned on to top of first course of brickwork to inner thickness of wall.

Lintels shall be made not less than 21 days before building in and shall be cured for at least 14 days by being kept damp in a shaded position.

The lintels shall be hoisted into position and bedded and grouted in solid in cement mortar.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.10.2.21.21 Pre-stressed lintels

Pre-stressed lintels shall be vibrated concrete reinforced with stressed high tensile steel wires, or of burnt clay blocks with similar reinforcing wires embedded in grooves in the blocks in 1:3, cement:sand mortar, or of other approved form of construction.

Concrete in lintels shall attain a crushing strength of at least 34MPa at 28 days for ordinary and at 7 days for rapid hardening cement.

The reinforcing wires shall be of ductile high tensile steel wire not less than 4mm diameter and of tensile strength of at least 1,350MPa and shall be stressed to not less than 850MPa.

The lintels may be in a single width to the thickness of wall or may be in two widths, placed side by side, and shall have a depth of not less than 60mm. Top surface of lintels shall be suitably roughened, indented or shaped to give a good bond between the lintels and the mortar for the first course of brickwork above,

Lintels shall have bearings of not less than 225mm on walls at each end.

The number of reinforcing wires in lintels for the various wall thicknesses and spans shall be not less than specified in the table hereunder, and brick courses over lintels of the number indicated in the table and for the full length of lintels shall be built in 3:1 cement mortar with all joints filled solid with mortar:

Nominal wall thickness (mm)	Clear or daylight span	Number of wires (in total number of lintels used)	Number of brick courses over lintel
90 – 110	≤ 1.8m	2	3
90 – 110	> 1.8m ≤ 3m	3	4
180 – 230	≤ 1.8m	6	4
180 – 230	> 1.8m ≤ 3m	6	5
270	≤ 1.8m	7	4
270	> 1.8m ≤ 3m	7	5
340	As described for 1 of 230mm plus 1 of 110 mm, or 3 of 110 mm		

Lintels in 270mm thick cavity walls shall be in 2 widths with joint between the two arranged directly over the window or frame below, and the brickwork above shall be built in 2 x ½ brick thickness with inner face of the outer thickness covered with sheeting as for damp-course, the full length and depth of lintels, and taken down between the 2 widths of pre-stressed lintels. The cavity to height of lintel courses shall be filled with Class E concrete, and where cavities continue above the lintel courses the sheeting shall be taken up and turned on to top of first course of brickwork to inner thickness of wall above the lintel course. The sheeting is not required in lintels protected from the weather.

T1.10.2.21.22 Bagged finish to brickwork

Bagging to walls is to be carried out after the mortar in joints has set. The wall surfaces shall be rubbed over with wet rough sacking until all joints and crevices are filled up and an even surface is obtained. Cement grout shall be added if necessary to fill up the joints and crevices.

T1.10.2.21.23 Raking out for and pointing flashings

Brick joints shall be raked out where required for fixing cover flashings and flashings, which shall be pointed in 3:1 cement mortar.

T1.10.2.21.24 Mastic pointings

Where steel door and window frames are specified to be pointed with mastic compound they shall be pointed all round externally with an approved waterproofing compound of such composition that it shall not stain surrounding surfaces and that it shall adhere steadfastly, remain plastic without sagging or running, be capable of accommodating any normal movement of the joint sealed, and shall receive paint without "bleeding". The pointing material shall be forced into the joints, which shall have been

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

previously prepared to receive same, by means of a pressure gun or by other suitable method, all in accordance with the manufacturer's instructions.

T1.10.2.21.25 Building in

Ends of timbers, holdfasts, cramps, gratings, air bricks, dowels, etc. shall be built-in in cement mortar. Door and window frames, lift door frames and the like shall be set up in position for building in and securely strutted to prevent distortion whilst the brickwork, lintels, etc. are being built.

Pressed steel door frames and lift door frames shall be grouted in solid at back with cement mortar as the work proceeds.

Wood slips, fixing bricks, hoop iron roof ties, etc. shall be built in as the work proceeds.

T1.10.2.21.26 Securing of roofs

Roof trusses shall be fixed at each support to walls with ties of 1.6mm thick galvanised hoop iron, 32mm wide, built 750mm deep into brickwork or embedded 300mm deep into concrete or wrapped around bottom layer of reinforcing in a reinforced concrete beam and wrapped over truss and fixed with four galvanised nails, 40mm long

T1.10.2.21.27 Bedding

All door, window and similar frames shall be bedded and pointed in 1:3 (cement:sand) cement mortar. All wall and floor plates shall be set true and level and bedded in 1:6 (cement:sand) cement mortar.

T1.10.2.21.28 Pointing of brickwork

Clean and point at the end of each working day all exposed masonry work including nail holes, existing brickwork shall be pointed, thus Pointing, repairing eroded and cracked mortar joints, shall be executed on existing and new brick where and when shown by the Engineer or his duly authorized representative. All disintegrated joints (erosions and/or cracks) shall be cleaned of all existing mortar for the full depth of the deterioration but not less than to a depth of 25mm. All joints shall be:

- brushed and washed (under pressure) clean prior pointing;
- kept wet during pointing; and
- pointed to the full depth of the cut, tooled to match existing.

Steel door and window frames shall be carefully pointed all round and made perfectly watertight.

Joints greater than 25mm shall be stage-pointed.

T1.10.2.21.29 Faced brickwork

Faced brickwork shall be built fair and pointed with a keyed or recessed joint as specified. Keyed joint shall mean that the joints are to be pointed with a round jointing tool, well pressed into the joints as the work proceeds.

"Recessed joint" shall mean that the joints are to be square recessed to a depth of approximately 6mm formed with a rectangular jointing tool well pressed into the joints as the work proceeds.

Facing bricks shall be sorted by the brick manufacturer at his yard or by the Contractor on the site to ensure that proper mixing of the bricks within the colour range of each type of facing brick being used is obtained. Sudden changes in the general colour of face work in any 1 type of facing brick shall not be acceptable.

T1.10.2.21.30 Fibre cement sills

Sills shall where in any way possible be in single lengths, cut between reveals, fitted with fixing lugs and solidly bedded in 1:3 (cement:sand) cement mortar with a slight projection beyond the finished wall face below.

Internal sills shall be level. External sills shall be set sloping on cut brickwork.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information**T1.10.2.21.31 Installation of electrical service**

The installation of electrical services, where such service is being provided, the Contractor shall embed in the concrete, as the work proceeds, all conduits, boxes, etc., which shall be fixed in position by the electricians, and must reduce all required chases and holes in walls for conduits and form recesses in walls for distribution boards, all in the positions directed. Alternatively, distribution boards may be built into walls as the work proceeds, providing prior approval is obtained from the Engineer. The Contractor shall afford every facility and shall render reasonable assistance to the electricians in carrying out their work and shall make good where necessary, in all trades, after installation has been completed.

Chases, holes and recesses required in walls shall be cut and formed as follows:

- vertical chase for single conduit.
- vertical chase for two conduits.
- vertical chase 150mm wide and 110mm deep for conduits.
- vertical chase 250mm wide and 110mm deep for conduits.
- vertical chase 380mm wide and 110mm deep for conduits.
- vertical chase 560mm wide and 110mm deep for conduits.
- horizontal chase for single conduit.
- Holes 25mm diameter, or knocking out bricks and filling space and making good after a pipe has been fixed through a wall.

Recesses for distribution boards shall be:

Width (mm)	Height (mm)	Depth (mm)
330	330	110
455	330	110
635	330	110
610	660	110
610	910	110

T1.10.2.21.32 Cable sleeves

Provide under buildings where required 100mm diameter vitrified clay, pitch fibre or plastic pipes as sleeves for electric cable taken up to floor level in cable duct or switch cupboard with easy bends. The pipes shall be as specified for drainage including laying and jointing.

T1.10.2.21.33 Patching brickwork

Patching of existing walls and closing of openings shall be as shown. All brick shall be keyed to the existing or stepped every course with all surfaces flush with the existing surface and all joints kept on line.

T1.10.2.21.34 Protect face brickwork

All face brickwork, stonework, tiling, etc. liable to damage shall be covered up and protected during the progress of the remaining work and any damage done shall be made good to the satisfaction of the Engineer or his duly authorized representative.

All face brickwork, stonework, tiling, etc. shall be cleaned down as the work proceeds and shall be covered up with paper, pasted on, or by other approved means where necessary to prevent soiling of the surfaces during the progress of the remaining work. At completion of the works the coverings shall be removed and the surfaces again cleaned down to the satisfaction of the Engineer or his duly authorized representative.

T1.10.2.21.35 Cleaning

On completion of the work all masonry must be carefully cleaned down, removing all large particles of mortar with a putty knife or chisel. If acid is required for the removal of mortar stains (see note below), it shall be hydrochloric (muriatic) and not stronger than one volume of the commercial acid to nine volumes of water. Before the acid solution is applied, the surface should be thoroughly soaked with clear water, otherwise the mortar stain may be drawn into the pores causing a permanent dulling of the rich natural masonry colors. The acid solution should be applied with a long-handled stiff fiber

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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brush, with proper precautions as to covering of clothing, hands and arms to prevent burns. It should not be placed over an area greater than 1.5 to 2.0m² before the wall is again thoroughly washed down, or preferably hosed, with clear water immediately after cleaning. It is important to remove all trace of the acid before it attacks the mortar joint. All frames, trim, sills, or other installations adjacent to the masonry must be carefully protected against contact with the acid solution.

All paving shall be thoroughly cleaned off after laying to remove all traces of mortar and other substances, covered up and protected from damage during the progress of the works and again cleaned off at completion.

Any detergent or other materials used in the cleaning down of face brickwork etc. shall be of such nature that it shall not harm adjoining paint and other finishings in any way.

NOTA BENE: *Whenever possible, smooth, light colored units should be scrubbed with warm water and soap powder in lieu of acid cleaning.*

T1.10.2.22 Plastering

T1.10.2.22.1 Lime

Lime shall be hydrated plaster lime complying with the requirements of SANS 523.

T1.10.2.22.2 Cement

Cement shall be as specified.

T1.10.2.22.3 Sand

Sand for plaster shall be as specified.

T1.10.2.22.4 Form key to concrete for plaster finish

All surfaces of concrete receiving plaster or similar finishes shall be well wetted and wire brushed immediately after the formwork has been removed and slushed over with 2:1 cement grout to form key for the finish, all to the approval of the Engineer or his duly authorized representative. The slushing shall be allowed to set hard before any finish is applied

Where smooth formwork has been used, particular care shall be taken in forming the key for plaster as described in applicable concrete specifications.

T1.10.2.22.5 Lime plaster

a) One coat work on walls

Lime plaster for 1 coat work on walls shall be composed of 4 parts (volume) of sand and 1 part (volume) of lime. The material shall be mixed dry until of uniform colour, water shall then be added and the mixture turned over until the ingredients are thoroughly mixed.

Lime plaster not used on the day it is mixed, shall be kept moist until required for use by covering with wet sacks or by other approved means.

b) Two coat work on walls

The rendering coat shall be of compo plaster well scratched over to form key for the setting coat. The setting coat shall be composed of 1 part hydrated putty plaster lime, complying with the requirements of SANS 523 and 1 part fine washed sand, to which retarded hemi-hydrate hardwall finishing gypsum plaster shall be added in the proportion of 1 part of gypsum plaster to 4 parts of sand, all proportioned by volume.

The gypsum plaster shall not be added to the mixture until the setting coat is to be applied and shall then be thoroughly incorporated into the mixture and used immediately.

c) Two coat work on metal lathing

The rendering coat shall be of compo plaster to which sisal shall be added in the proportion of 4kg of sisal to 1m³ of plaster. The rendering coat shall be well scratched over to form a key for the setting coat.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information**T1.10.2.22.6 Compo plaster**

Compo plaster shall be composed of 10 parts (volume) of sand, depending on the quality of the sand available, 1 part (volume) lime and 1 part (volume) cement.

The lime and sand shall be mixed dry until of uniform colour and then mixed wet. Approximately ½ hour before use, add the cement and any additional water as may be required and remix until thoroughly mixed.

Compo plaster shall be produced in such quantities as can be used whilst remaining workable as no compo plaster that has become unworkable shall be used in any way.

T1.10.2.22.7 Cement plaster, one coat work on brickwork:

Cement plaster for 1 coat work on brickwork shall be composed of 4 parts of sand to 1 part of cement for internal work and 5 parts of sand to 1 part of cement for external work, all measured by volume, and mixed as described for cement mortar in sub-clause 4.2.19.9 (Cement mortar).

T1.10.2.22.8 Thickness of plaster

Plaster on walls shall be not less than 12mm or more than 20mm in thickness and plaster on concrete ceilings and beams shall not be less than 9mm or more than 16mm in thickness.

T1.10.2.22.9 Application of plaster

Walls shall be well wetted before plastering is commenced.

The surfaces of plastered walls internally shall be steel trowelled to a smooth, even and true finish, unless otherwise specified.

All external plaster shall be finished to a true and even surface with a wood float, unless otherwise specified. All plaster surfaces shall be free from blemish.

Plaster shall be returned into reveals and soffits of openings and all angles shall be true and straight with salient angles slightly rounded.

The rendering coat of plaster in two coat work shall be approved by the Engineer or his duly authorized representative before the setting coat is applied and notice shall be given to him when the plaster is ready for inspection.

All cracks, blisters and other defects shall be cut out, made good and the whole left perfect at completion.

T1.10.2.22.10 Granolithic finish

Granolithic finish to floors, treads of steps, thresholds and similar horizontal surfaces shall be not less than 25mm thick, composed of 2 parts (volume) granite, or other approved hard stone chippings, or approved hard coarse sharp washed granitic or quartzitic river sand, graded up to a maximum size of 5mm, 1/6 part clean pit sand screened through a 2.4mm mesh sieve and 1 part (volume) of cement, and hand or mechanically steel trowelled to a true and smooth surface.

The material must test between 30 and 35MPa. No dry cement powder or grout shall be applied to the surface.

The granolithic shall be laid before the concrete subfloor has matured otherwise the exposed surface of the concrete shall be thoroughly cleaned with a wire brush and a coat of neat cement grout applied immediately before the granolithic is laid.

The granolithic shall be laid in panels not exceeding 20m² in area and joined to lines of panels with V-joints as directed. The length of any panel shall not exceed 4.5m and wherever possible the joints between the panels shall coincide with any joints in the concrete sub-floor.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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Where granolithic is to be tinted, it shall be laid in two thicknesses in one operation, the lower thickness being brought up to within 6mm of the finished level and the upper thickness, into which the requisite quantity of approved colouring material has been mixed, shall be laid. NO DUSTING OF COLOURING MATERIAL SHALL BE ALLOWED.

Granolithic finish to stair risers, sides of kerbs and other vertical surfaces shall be not less than 12mm thick.

Exposed salient angles of granolithic shall be neatly rounded to approximately 20mm radius. All granolithic work shall be carried out by experienced workmen and shall be protected from injury caused by rain or other extremes of weather for 12 hours after being laid, and against drying out too rapidly whilst hardening by covering with wet sacks or other suitable material and shall be protected from other injury and discoloration during the progress of the remaining work.

Edges of granolithic floors adjoining other floor finishes, edges of margins, etc. shall be true and sharp, all protected by fixing temporary wood strips which shall remain in position until laying of the adjoining flooring material is commenced.

T1.10.2.22.11 Reeding to steps and upper surfaces

The treads of steps and upper surfaces of external thresholds finished with granolithic or sand-cement finish shall be rendered non-slip by reeding same near front edge for a width of 100mm and stopped 100mm from ends.

T1.10.2.22.12 Polishing of granolithic

All tinted granolithic finishes to floors, steps, thresholds, skirting, etc. shall at completion of all other work be twice polished with wax floor polish of an approved type.

T1.10.2.22.13 Screeding to floors

Concrete sub-floors finished with wood mosaic, semi-flexible tiles and fully flexible vinyl sheeting and tiles and similar finishes shall be screeded with 1:3 (cement:sand) cement plaster of thickness required, but in no case less than 12mm, all steel trowelled to true and smooth surfaces. The sand used in the plaster shall be of such fineness as shall allow for the screed being trowelled to a surface suitable to receive the finishes.

The screeding shall be laid before the concrete sub-floors have matured, otherwise the exposed surfaces of the concrete shall be thoroughly cleaned with a wire brush and a coat of neat cement grout applied immediately before the screeding is laid.

The screeding shall be laid in good time, but no finishes are to be laid if the screed exceeds 70% moisture content when measured with a hygrometer.

No traffic shall pass over nor shall any building operations take place on the screeding unless a proper protective covering is first provided.

NOTA BENE: A similar process shall be applicable where chambers are screeded.

T1.10.2.22.14 Sand-cement finish

Sand-cement finish to treads of steps, thresholds, etc. shall be of 1:2 (cement:sand) cement plaster not less than 20mm thick and steel trowelled to true and smooth surfaces. Finishes to risers of steps, sides of kerbs and other vertical surfaces shall be not less than 12mm thick. Exposed salient angles shall be neatly rounded to approximately 20mm radius.

T1.10.2.22.15 Natural aggregate concrete floor hardener

a) Definition

All natural aggregate hardeners for concrete floors shall consist of a factory prepared blend of clean, properly graded and oven dried natural aggregate, Portland cement and chemical aids, all suitable for monolithic application to the surface of newly placed concrete. Where required the hardener may contain certain compatible pigments for tinted floors.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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b) Quality testing

i) Sampling:

A minimum of 1% of every 5 tons of production shall be sampled and factory tested for water demand, compressive strength and proportioning.

ii) Compressive strength and water demand

Mix with sufficient water to give a slump of 20 to 25mm in a 35 x 90 x 75mm high slump cone filled in three layers; tamping each layer with 15 strokes of a 16mm diameter rod, shall give the following minimum compressive strengths when tested in a 70mm mortar cube vibrated for 3mm on a vibrating table and stored in a curing room or tank at 22 to 25°C and not less than 90% humidity:

- at 7 days : 50 MPa
- at 28 days : 70 Mpa

iii) Test records:

Each quality test record shall be so referenced that the batch numbers on bags of the product may be traced back to the relevant quality control report. Such reports shall be available for inspection by the Engineer or his duly authorized representative for up to 1 year after manufacture.

c) Curing

As an integral part of this hardener, a membrane curing compound, which must be both compatible with the floor hardener offered and comply with the ASTM C.309 Type 1 specification for moisture retention, shall be used.

T1.10.2.22.16 Ferrous aggregate concrete floor hardener

The ferrous aggregate hardener for concrete floors shall be a factory prepared blend of clean, properly graded ferrous metal aggregate, Portland cement and chemical aids for application and hardening, ready to apply as a dry shake to the surface of newly placed concrete before finishing.

The ferrous aggregate shall be guaranteed to be free of matter deleterious to concrete, such as oil and non-ferrous particles and shall be treated for rust inhibition. Where required it may contain compatible pigments for tinted floors.

T1.10.2.23 General product requirements

T1.10.2.23.1 Local content

Preference shall be given to materials fully manufactured in South Africa with South African raw materials.

T1.10.2.23.2 Site service

The manufacturer shall be expected to supply samples free of any other additional charge, and the services of a qualified technical representative on all of the building sites pertaining to the particular contract in order to train the placing team in the correct application methods of the product during initial placing upon 1 week's notice.

Circumstances may necessitate follow-up inspections.

T1.10.2.23.3 Shelf life

The shelf life of the offered product shall be stated and the expiry date displayed on each bag. The Contractor shall ensure that the product supplied shall survive the Contract Period, or replace the product at his cost.

T1.10.2.23.4 References

The Contractor shall submit names and locations of projects in South Africa where the offered product has been in successful use for a period of at least 5 years under similar conditions and at similar rates. The Contractor shall:

- make arrangements with the project owners for access for such visits, if the Engineer or his duly authorized representative wish to inspect such reference project sites.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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- ii) provide an acceptable alternative at the same accepted financial rate of the original proposed product, should the Engineer or his duly authorized representative find the product unacceptable.

T1.10.2.23.5 Approved products

Only products that have been tested and which have been approved by the SABS shall qualify.

T1.10.2.23.6 Application rates

As specified by the manufacturer.

T1.10.2.23.7 Control testing

The Contractor shall be required to conduct control testing as and when requested by the Engineer or his duly authorized representative, proving the quality of the product used.

T1.10.2.24 Specific work-related instructions

T1.10.2.24.1 Return of removed meters and fittings

On completion of the ordered Works, the Contractor shall return all removed meter and/or fittings to the Employer's Ffennel Road Depot Laboratory, and all other fittings are to be returned to the applicable area depot.

T1.10.2.24.2 Avoidance of contamination

The Contractor shall:

- take reasonable care to avoid contamination of the mains whilst works are executed.
- not stack pipes in the street or stormwater channels or surface watercourses or such place that may result in its contamination.

The open ends of all new pipes shall be protected to prevent entry of foreign materials or particles to the satisfaction of the Engineer or his duly authorised representative, until such pipes are connected to the existing operational main or lead and commissioned.

T1.10.2.24.3 Damage to persons and property

The Contractor shall (except if and so far as the Contract provides otherwise) indemnify and defend at his own expense the Employer, its officers, agents, employees and servants from and against all suits, claims, demands, proceedings, and liability of any nature or kind, including costs and expenses, for injuries or damages to any person or any property whatsoever which may arise out of or in consequence of acts or omissions of the Contractor or his agents, employees, servants or sub-contractors in the execution of the Contract. The provision of this clause shall extend to suits, claims, demands, proceedings and liability in the nature of workmen's compensation claims and arising out of the use of patented inventions and devices. Provided always that nothing herein contained shall be deemed to render the Contractor liable for or in respect of or with respect to:

- The right of the Employer to construct the Works or any part thereof on or through any land.
- Interference whether temporary or permanent with any right of water or other easement which is the unavoidable result of the construction of the Works in accordance with the Contract.
- Death, injuries or damage to persons or property resulting from any act or neglect of the Employer, his agents, servants or other contractors, done or committed during the validity of the Contract.

T1.10.2.24.4 Interference with property access and traffic

All operations necessary for the execution of the Works and for the Construction of any Temporary Works shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with the public convenience, or the access to, use and occupation of, public or private roads and footpaths to or of properties whether in the possession of the Employer or of any other person. The Contractor shall hold harmless and indemnify the Employer in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such matters in so far as the Contractor is responsible therefore.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information**T1.10.2.24.5 Contractor to keep site clean**

During the progress of the Works, the Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any Constructional Plant and surplus materials and clear away and remove from the Site any rubbish or Temporary Works no longer required.

T1.10.2.24.6 Clearance of site on practical completion

On the practical completion of the Works, the Contractor shall clear away and remove from the Site all Constructional Plant surplus materials, rubbish and Temporary Works of every kind and leave the whole of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer or his duly authorized representative.

T1.10.2.24.7 Testing

Testing of the various parts of the works shall be in accordance to the relevant standard specifications, or as required by the material manufacturer.

T1.10.2.24.8 Contractor's responsibility

The Contractor shall be held responsible for damage to street or road surfaces, kerbing, storm water drainage channels (gutters), existing utilities, etc. that result from his negligence during the implementation of all works. The Contractor shall repair, at his cost, any damage resulting there from, which shall be subject to approval by the owner of such asset and the Engineer or his duly authorized representative.

T1.10.2.24.9 No disturbance

The Contractor shall be required to perform Works at all surface boxes and chambers with limited and approved disturbance to the existing service provision.

T1.10.3 Plant and materials

The Contractor is required to provide all plant and materials necessary to carry out the works as specified and required. No additional allowances other than those already specified in the Schedule of Rates shall be allowed for with respect to plant and materials.

T1.10.4 Construction equipment

See clause PS4.3.

T1.10.5 Existing services

The Contractor:

- must make provision for the possible existence of numerous services (e.g.: Stormwater, Sewer, Eskom, City Power, Egoli Gas, Rand Water, Telkom, and the like) within and in close proximity to the work areas.
- is to obtain way leaves indicating the location of existing services from all affected service providers prior to the commencement of construction. The Contractor is to comply with the conditions of the way leaves received from the various service providers.
- is to ensure the protection and integrity of all existing services exposed and encountered through the course of construction activities. Adequacy in terms of protection of existing services shall be at the discretion of the Engineer. The Contractor is to make good the protection of and any breakages to existing services. The Contractor is to record on as built drawings the location of existing services or services which have been relocated during Contract Period.
- must inform the relevant service provider immediately (within 2 hours of incident) such that procedures for the reinstatement of the service can be effected, should he damage or break an existing service (whether known or unknown).
- is responsible to provide his own equipment in order to determine the location of existing services.

NOTA BENE: Drawings indicating other existing services in the vicinity of the Works are not guaranteed as being accurate, as all other services may not have been recorded or properly recorded. It shall remain the responsibility of the Contractor to perform preoperational work, to locate existing services in advance of the commencement of the Works.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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T1.10.6 Site establishment, facilities available and required

As the works areas are diverse and spread throughout the Midvaal Local Municipality, no provision has been made for site establishment. Storage and transport of fittings, materials and equipment shall be the responsibility of the Contractor.

T1.10.7 Site usage

Site usage shall be limited to hours as specified in the Contract Data.

T1.10.8 Permits and wayleaves

The Contractor shall be required to obtain permits and wayleaves from all the applicable service providers within the jurisdiction of the Midvaal Local Municipality.

T1.10.9 Alterations, additions, extensions and modifications to existing works

The Contractor is required to verify the accuracy of all drawings and levels provided by the Engineer prior to commencing with any construction activities

T1.10.10 Inspection of adjoining properties

The Contractor shall carry out inspections and evidence collection, as he deems appropriate, of properties adjoining the works to ensure that in the event of a claim arising from any of the owners of the adjoining properties for damage to property and the like, the Contractor has substantial evidence to support or refute such claims. The Contractor accepts full liability and responsibility for damage which he causes to adjoining properties as well as any costs involved in refuting or processing such claims.

T1.10.11 Water, sanitation and electricity for construction purposes**T1.10.11.1 Water**

The Contractor shall make his own arrangements with the Midvaal Local Municipality to obtain a potable water metered standpipe connection for which at least 14 days' notice shall be given. The size of the connection provided will be as specified in the Water and Sanitation By-laws.

T1.10.11.2 Sewer

The 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 for 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 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.

T1.10.11.3 Power

The Contractor shall make arrangements with the relevant authority for the supply and distribution of power for purposes of this Contract, the cost of which shall be deemed to be included in the rates inserted in the Schedule of Quantities.

Power used for carrying out of the works in accordance with these Specifications will not be subject to measurement or payment.

T1.10.12 Survey control and setting out of the works

The Contractor is to confirm the levels and coordinates of all benchmarks prior to commencing with construction.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.11 MANAGEMENT OF THE WORKS

T1.11.1 Applicable SANS 1921 Standards

SANS 1921-1:2004: Construction and management requirements for works contracts Part 1: General engineering and construction works shall be applicable to this Contract

T1.11.2 Programming

a) Planning

The Contractor shall ensure that he:

- 1) is well informed with regard to the Employer's overall implementation programme for the implementation of its prepayment programme and avail resources as required to efficiently complete each Works order; and
- 2) delivers good and services timeously as not to unnecessarily delay any other contractors, service providers and suppliers.

b) Programming

In order to ensure a clear understanding, at the inception of each Works Order, of the programming and documentation format requirements, the Contractor shall appoint a project programmer/ planner for liaison during the Contract. The Contractor shall for the Contract Period provide and regularly update (maximum monthly) a Contract/Works Order Programme.

T1.11.3 Sequence of the works

The sequence of works to be executed shall be agreed between the Engineer and the Contractor.

Contractor shall address matters regarding the approval of his Health and Safety Plan, thereafter the works shall commence

T1.11.4 Software application for programming

The construction programme shall be completed in Microsoft ® Project Standard 2007 or compatible software. The construction programme and updated versions thereof shall be made electronically available to the Engineer.

T1.11.5 Methods and procedures

The methods and procedures for the execution of the works shall be in accordance with the standard specifications and the variations and additions thereto.

T1.11.6 Quality plans and control

The Contractor shall be required to provide and maintain a quality plan to ensure that the quality of all work components is of a high standard.

T1.11.7 Accommodation of traffic on public roads occupied by the Contractor

T1.11.7.1 Accommodation of traffic

The Contractor shall ensure the safe accommodation of traffic at all areas where the work may impact traffic and shall provide all delineators, watching, lighting, signs and barricades required by the road authorities, and in accordance with Chapter 13 of the South African Road Traffic Signs Manual.

T1.11.7.2 Access to properties

Adequate access shall at all times be maintained to public and private properties unless otherwise arranged and approved. Details of the proposed means of access shall be submitted before any such access is restricted. Claims arising from impeded access shall be the responsibility of the Contractor. At least 7 days before commencing any work affecting access to a property, the Engineer and the occupier/owner of each such property shall be notified of the Contractor's intention to commence work, the date of commencement, expected duration and arrangements which shall be made regarding maintenance of access.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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T1.11.8 Other contractors on site

There may be other contractors working within the same area. As such, the Contractor is required to make adequate allowances for such possibilities. No claims with respect to works being carried out by other contractors shall be entertained by the Engineer.

T1.11.9 Testing, completion, commissioning and correction of defects

The onus is on the Contractor to produce goods and services which shall conform in quality and in accuracy of detail to the requirements hereinafter specified. The Contractor must clearly understand that it is not the duty of the Engineer or his representative to act as foreman or surveyor on the Works.

The Contractor shall, at his own expense, provide experienced engineers, foremen and surveyors together with all transport, instruments and equipment for supervising, checking and controlling the work.

The act of passing any completed work or accepting materials or goods for payment by the Engineer shall not be construed as signifying approval or acceptance thereof. Failure on the part of the Engineer to reject any defective work or material or goods shall not in any way relieve the Contractor of his obligations under the Contract, nor prevent later rejection when such work or material is discovered.

The Contractor shall, when submitting any work to the Engineer for examination, satisfy himself by testing, measurement and otherwise as may be necessary that the work does in fact meet with the requirements of the Specifications. This information shall be submitted with the Contractor's request for examination and the Engineer shall be authorised to decide on the number and type of tests, measurements, etc. required to enable him to judge the quality of the work. The submission of this information shall in no way diminish the authority of the Engineer to conduct such tests as he may consider necessary in order to determine the quality of the work performed by the Contractor, nor shall he be bound to take account of the Contractor's tests, measurements, etc. should he consider these to be either incorrect or not representative.

Quality control and completion tests shall be in accordance with the relevant standard and amended specifications and additional specifications.

T1.11.10 Recording of Weather and Abnormal Rainfall

If during the time for completion of the Works, or any extension thereof, should abnormal rainfall or wet conditions occur, then an extension of time in accordance with Clause 5.12.1 to 5.12.3 of the General Conditions of Contract shall be granted by the Employer, calculated on the critical path method. It shall be applied as follows:

A delay caused by inclement weather conditions will be regarded as a delay if, in the opinion of the Engineer, all progress on an item or items of work on the critical part of the working programme of the Contractor has been brought to halt. Delays on working days only (based on a five day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of **10 (ten)** working days caused by normal rainy weather, for which he will not receive any extension of time.

Daily records of rainfall and activities within the critical parts affected shall be kept by the Contractor and signed by the Engineer's representative on the site. For this, accurate rain gauging shall be taken at a suitable point on the site, and the Contractor shall, at his own expense, take all necessary precautions to ensure that unauthorised persons do not interfere with the rain gauges. Failure to produce signed copies of the above records on a daily basis to the Engineer's representative on the site after the event having occurred will be deemed to be in breach of this Clause and will not be admissible for purposes of seeking an extension of time.

The Contractor shall be permitted to take his own rainfall measurements on site subject to the Engineer's approval, but access to the measuring gauge(s) shall be under the Engineer's control.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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The Contractor is to provide and install all the necessary equipment for accurately measuring the rainfall as well as to provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost.

The values of Nn Rn, x and y for use in Clause 5.12.2.2 of the Special Conditions of Contract shall be as follows:

Source of Information : Weather Bureau, Department of Environment
Rainfall Station : Goudkoppies O475736A2, Lat 2616, Long 2755
Period : 1990 to 1999

Month	Nn	Rn	Month	Nn	Rn
January	10,9	116,1	July	0,2	0,7
February	6,8	84,9	August	0,9	3,9
March	8,5	112,8	September	2,7	16,5
April	2,8	24,9	October	7,2	92,5
May	1,5	18,3	November	9,8	88,0
June	0,5	1,6	December	11,6	130,9

Average Annual Rainfall 691,0
x = 20 mm
y = 10 mm



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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T1.11.11 Format of communications

All communication shall be in writing and any verbal agreements shall only be binding once confirmed and agreed to in writing. Communication via, registered post, email or facsimile is acceptable.

T1.11.12 Key personnel**T1.11.12.1 General**

The Contractor is to provide the Curriculum Vitae's of key personnel to be employed on the project as well as the person's position and responsibilities within the project team.

T1.11.13 Management meetings

Fortnightly progress meetings shall be arranged and facilitated by the Engineer. Senior Contractor management staff attendance shall be compulsory.

The Contractor shall be required to provide reporting with regard to project progress, resources (human, plant and equipment), community issues, environmental and health and safety aspects.

T1.11.14 Forms for contract administration

The Contractor shall maintain a file which shall contain project information related to project progress, resources (human, plant and equipment), community issues, environmental, health and safety aspects, penalties imposed, claims lodged and outcomes, disputes and resolutions, payment and variations.

T1.11.15 Daily records

The Contractor shall keep daily site records as required by the Engineer or his representative and as specified herein. Daily records shall include, labour, plant, materials, rainfall, environmental issues, health and safety issues, daily diary and the like. Such records are the property of the Employer and shall be made available to the Engineer or his representative within 24 hours from being requested to do so.

T1.11.16 Bonds and guarantees

The Contractor shall within 21 days from the date of Offer Acceptance by the Employer with a Surety Bond in the form of a Bank Guarantee, Bank Transfer or a Guarantee from an approved Insurance Company to the satisfaction of the Employer in the form included in the Tender Documents. The Bank Guarantee shall be for an amount equal to ten percent (10%) of the Tender Sum, for the due and punctual fulfilment and completion of all the Contractor's obligations under the Contract. No Extension of Time or any variation of the Contract nor the determination of the Contract by the Employer shall in any way impair or diminish or terminate any liability to the Employer under and by virtue of such Surety Bond. The cost of the Surety Bond to be so entered into shall be at the expense in all respects of the Contractor; the Surety Bond to be released upon issue of the Engineer's Certificate of Completion of the Works.

Should the Contractor, when notified of the acceptance of his offer, fail to provide an approved Surety Bond within 21 days, then the Employer may, at his sole discretion:

- Grant the Contractor a further reasonable period in which to provide the bond; or
- Withdraw his acceptance of the tender in which case the Contract shall be deemed to be void, but without prejudice to the Employer's rights to recover whatever damages he may have suffered by virtue of the Contractor's failure to fulfil his obligations.

T1.11.17 Payment certificates

Payment certificates shall be submitted to the Engineer, in the format required on a monthly basis.

T1.11.18 Permits

Refer to PS 4.8

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.12 FEATURES REQUIRING SPECIAL ATTENTION

T1.12.1 Security

The Contractor shall be responsible to provide security on site(s):

- a) as he deems necessary. The Employer shall not be held responsible for any loss or damage(s) suffered by the Contractor, his plant, equipment, materials, subcontractors or employees as a result of a security incident of any nature.
- b) which have been identified, by the Engineer, as potential high risk areas requiring security during site visits for the duration of the contract. The Contractor shall arrange that the security meet with the Employer representative at a convenient and safe location and thereafter escort to the necessary areas.

T1.12.2 Operation of valves

Only employees of the Employer are permitted to operate primary and secondary water mains valves.

T1.12.3 Work outside normal working hours

The Contractor is permitted to work outside of normal working hours only upon obtaining written permission from the Engineer. It is anticipated that all switch-over work (tying new infrastructure into existing) shall be completed during hours that shall not affect the supply of water to affected communities.

T1.12.4 Sanitary facilities

The Contractor is required to supply adequate sanitary facilities for employees.

T1.12.5 Community liaison and community relations

For the purpose of this project a community liaison officer may not be required; however the Contractor shall be required to inform the community with regards to his activities in particular where such activities may affect the service provision to the affected community (See PS6.6).

T1.12.6 Notices and warning to consumers

The Contractor shall ensure he maintains service (water and/or sanitation) provision at all times whilst executing the works where:

- a) The maximum amount of time of no service shall be 8 hours for any property. Any service disruption longer than 8 hours shall be temporary bypassed by methodologies approved by the Engineer or his duly authorized representative.

The Contractor must provide written notice to all consumers affected by the construction activities. The written notice shall outline the:

- a) nature of the works;
- b) expected inconvenience / disruption that the consumers can expect;
- c) timeframes for construction; and
- d) contact details in case of problems encountered.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.12.7 Continuity of service supply to customers

The activities of the Contractor shall not unreasonably interfere with the service supply to customer and be executed outside the agreed and notice time frames.

Where the Contractor cannot reasonably re-establish services within times agreed and notice time frames he shall proceed to contact the affected customer and make alternative arrangements that shall be acceptable to the customer and the Employer.

The associated costs of any customer claim arising from a lack of service provision due to the Contractor's negligence or his disregard for the Employer's SOP or his disregard for the conditions of this Contract, whilst executing activities as per this Contract, shall be solely for his the account. The Engineer shall have the right to make equivalent monetary deductions from monies owed to the Contractor or from his Guarantee under this Contract and any other active contract(s) with the Employer.

T1.12.8 Conditions and procedures for service agencies

The Contractor shall comply with the conditions and procedures of the various affected service agencies, as mandated in their associated wayleaves.

T1.12.9 Generic labour intensive specifications

EPWP guidelines shall be applicable to this Contract.

T1.12.10 Acceptance of works and causes for rejection**T1.12.10.1 Acceptance of implemented and associated works**

The Engineer or his duly authorized representative shall only accept works complying with the Employer's requirements and/or specifications.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.13 HEALTH AND SAFETY FOR CONSTRUCTION WORK

Tendering Contractors are to prepare Health and Safety Plans. The legal imperatives for this requirement stem from the Construction Regulations (2003), and more specifically the following:

- Regulation 4(1)(a): A client shall prepare a documented health and safety specification for the construction work, and provide any principal contractor who is making a bid or appointed to perform construction work for the client with the same
- Regulation 4(1)(d): A client shall take reasonable steps to ensure that each principal contractor's health and safety plan is implemented and maintained on the construction site.
- Regulation 4(2): A client shall discuss and negotiate with the principal contractor the contents of the health and safety plan and thereafter finally approve the health and safety plan for implementation.
- Regulation 5(1): A principal contractor shall provide and demonstrate to the client a suitable and sufficiently documented health and safety plan, based on the client's documented health and safety specification.

T1.13.1 Project-related Occupational Health and Safety Risks

According to the Construction Regulations (2003), a Health and Safety Plan "means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified". Apart from complying with the Health and Safety Specification, attention is drawn to the identification and assessment of risks. The tendering Contractors are required to consider *inter alia* the following risks (where applicable):

Project- and site-specific risks:

- Existing services;
- Third party exposures;
- Traffic control (heavy machinery);
- Operation of machinery;
- Use of portable electrical tools;
- Use of hand tools;
- Location of campsite;
- Overhead electricity cables;
- Excavation of trenches;
- Access to excavations;
- Safeguarding of deep excavations;
- Offloading of material;
- Storage of material;
- Storage of hazardous materials;
- Working in elevated positions;
- Arc welding;
- Handling of compressed gas cylinders;
- Electrical distribution boards; and
- Workshops.

Safe work and emergency procedures need to be prepared to address the abovementioned risks.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

T1.13.2 Guide to risk assessments**T1.13.2.1 Nine steps to Effective Risk Assessments**

- Step 1 Identifying the current as well as emerging hazard, risks or exposures.
- Step 2 Aim to identify major hazards, don't waste time on the minor and detail except if such hazard has the potential be repeat itself on a frequent basis.
- Step 3 Involve as many people as possible in the ongoing risk assessment process especially those at risk.
- Step 4 Gather all the information and analyze it.
- Step 5 Look at what actually could or has occurred including non-routine operations.
- Step 6 Use a systematic approach to ensure all hazards are adequately addressed.
- Step 7 Assess the risks identified or the risk has occurred by taking into account the effectiveness of current as well as controls under consideration.
- Step 8 Ensure the process is practical, realistic, cost and business effective.
- Step 9 Always record the assessment in writing including i.e. assumptions, date and why a particular decision has been made.

T1.13.2.2 How serious is it?**Probability**

- A Common
- B Has Happened
- C Could Happen
- D Not Likely
- E Practically impossible

Consequences

- 1 Fatality or permanent disability.
- 2 Major injury.
- 3 Average Lost Time Injury.
- 4 Minor Injury.
- 5 Medical Treatment or less.

		Probability				
		A	B	C	D	E
Consequence	1	1	2	3	4	5
	2	2	3	4	5	6
	3	3	4	5	6	7
	4	4	5	6	7	8
	5	5	6	7	8	9
Risk rating		Action				
1 - 3 =		Immediate (within 1 week).				
4 - 5 =		Within 1 month.				
6 - 7 =		> 4 weeks.				
8 - 9 =		No action but will consider from time to time.				

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

T1.14ENVIRONMENTAL MANAGEMENT PLAN

Environmental mitigation measures are actions needed to align a project implementation phase with environmental control principles, where potential impacts to the natural and social environment are prevented, minimised or remediated. Environmental safeguarding is governed by various sets of legislation, with the most noteworthy for this project constituting the National Environmental Management Act (No. 107 of 1998) and the National Water Act (No. 36 of 1998).



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

PORTION 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS

SANS 1200A: CIVIL ENGINEERING CONSTRUCTION: PRELIMINARY AND GENERAL

VARIATIONS

Delete the following standard referenced clause:

Delete standard clause	Description	Comments
5.1.1	Setting out of the works	See clause PS 4.12: <i>Survey control and setting out of the works</i>
5.2	Watching, barricading, lighting and traffic crossings.	See clause PS 5.7 <i>Accommodation of traffic on public roads occupied by the Contractor</i>
8.8.4 (d)	Temporary protection, as required in terms of the project specification, of service.	Refer to SANS1200DB 8.3.5, It shall be deemed that the Contractor has allowed for all services protection under SANS1200DB 8.3.5 during all required construction activities.

Delete and replace the standard referenced clauses:

Delete standard clause	Replace with PSA...
5.4	PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES. The Contractor shall be held responsible for any damage to known services (i.e. services that are within the Site of the Works and are shown on the drawings) and he shall take all necessary measures to protect them. All work or protective measures shall be subject to approval. In the event of a service being damaged, the Contractor shall immediately notify the authority concerned as well as the Engineer or his duly authorized representative. The Contractor shall not repair any such service unless instructed to do so. Where no underground services are shown on the drawings or scheduled but the possibility of their presence can reasonably be inferred, the Contractor shall, in collaboration with the Engineer or his duly authorized representative, ascertain whether any such services exist within the relevant section of the Site. The Contractor shall complete such investigation well in advance of the start of construction work in the said section and he shall make whatever arrangements are necessary for the protection, removal or diversion of the services before any construction work commences. As soon as any underground service not shown on the drawings is discovered, it shall be deemed to be a known service and the Contractor shall be held responsible for any subsequent damage to it. If such service is damaged during the course of its discovery, the cost of making good such damage shall be met by the Employer unless he establishes that the Contractor did not exercise reasonable diligence and that the damage was avoidable. Where the authority concerned elects to carry out on its own account any alterations or protective measures, the Contractor shall co-operate with and allow such authority reasonable access and sufficient space and time to carry out the required work. Permanent alterations to or permanent diversion of services necessitated by the execution of the Works and authorized shall be paid for in

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

	terms of the conditions of contract, but no such work shall be paid for if it has not been previously inspected and if proper written instructions have not been given.
5.8	GROUND AND ACCESS TO WORKS. The Contractor shall: a) occupy only such ground as is necessary to carry out the work. b) provide and maintain such access, if not already existent, to the various sections of the Works as he requires for the proper execution of the work. c) restore, to a condition at least equivalent to their original condition, all fences and other structures that have been damaged or interfered with.
8.2.2	TIME-RELATED ITEMS No payment shall be made for time-related items, as such is to be included in the pricing for the works.

ADDITIONS

Add the following clauses:

Standard clause	Add PSA...
5.2	<i>...at the end of the existing clause(s):</i> The Contractor shall comply with the requirements of the COP and PS 5.7. This clause shall be applicable for all other parts/sections of the works. The complete closure of any road shall not be permitted without the prior written consent of the Engineer or his duly authorised representative.
	<i>... new clause:</i> 5.9 Dealing with traffic The Contractor shall comply with the requirements of the COP and PS 5.7. This clause shall be applicable for all other standard parts/sections of the works. The complete closure of any road shall not be permitted without the prior written consent of the Engineer or his duly authorised representative.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

ADDITIONS

Add the following clauses:

Standard clause	Add PSDA																													
	3.4 CLASSIFICATIONS FOR HAND EXCAVATION Classification of material for various types of hand excavation shall be based on the results of a dynamic cone penetrometer. The category of material shall be determined by testing the material at regular intervals and at various depths along the centre line of the trench. A minimum of 5 tests shall be done at each location and the average number of blows of the tests shall be used to determine the category of material. The interval between test locations shall be determined by the variation of material type but shall not exceed 50m. The depth of testing shall be determined by the variation of material type and can increase or decrease in hardness with increasing depth of excavation. Table PSDB 3.8 indicates the categories: TABLE PSDA: 3.4 CLASSIFICATIONS FOR HAND EXCAVATION <table><tr><th rowspan="2">Category of Material</th><th colspan="2">Consistency</th><th colspan="2">DCP Blows to Penetrate 100mm</th></tr><tr><th>Granular</th><th>Cohesive</th><th>Granular</th><th>Cohesive</th></tr><tr><td><u>Soft</u> Soft excavation shall be excavation in material that can be efficiently removed from the trench using a pick and shovel but not requiring prior breaking using mechanical equipment such as pavement breakers</td><td>Up to medium dense</td><td>Firm to stiff</td><td>0-6</td><td>1-5</td></tr><tr><td><u>Intermediate</u> Intermediate excavation shall be excavation in material that require loosening with a hand spike (gwala) before being removed from the trench</td><td>Dense</td><td>Stiff to very stiff</td><td>7-15</td><td>6-8</td></tr><tr><td><u>Hard</u> Hard excavation shall be excavation in material that requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.</td><td>Very dense</td><td></td><td>16-50</td><td>-15</td></tr><tr><td><u>Rock</u> Rock excavation shall be excavation in material other than described above which by nature of the material requires prior breaking using mechanical equipment, such as pavement breakers with moil points, before being removed from the trench</td><td>-</td><td>-</td><td>>50</td><td>>15</td></tr></table>	Category of Material	Consistency		DCP Blows to Penetrate 100mm		Granular	Cohesive	Granular	Cohesive	<u>Soft</u> Soft excavation shall be excavation in material that can be efficiently removed from the trench using a pick and shovel but not requiring prior breaking using mechanical equipment such as pavement breakers	Up to medium dense	Firm to stiff	0-6	1-5	<u>Intermediate</u> Intermediate excavation shall be excavation in material that require loosening with a hand spike (gwala) before being removed from the trench	Dense	Stiff to very stiff	7-15	6-8	<u>Hard</u> Hard excavation shall be excavation in material that requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.	Very dense		16-50	-15	<u>Rock</u> Rock excavation shall be excavation in material other than described above which by nature of the material requires prior breaking using mechanical equipment, such as pavement breakers with moil points, before being removed from the trench	-	-	>50	>15
Category of Material	Consistency		DCP Blows to Penetrate 100mm																											
	Granular	Cohesive	Granular	Cohesive																										
<u>Soft</u> Soft excavation shall be excavation in material that can be efficiently removed from the trench using a pick and shovel but not requiring prior breaking using mechanical equipment such as pavement breakers	Up to medium dense	Firm to stiff	0-6	1-5																										
<u>Intermediate</u> Intermediate excavation shall be excavation in material that require loosening with a hand spike (gwala) before being removed from the trench	Dense	Stiff to very stiff	7-15	6-8																										
<u>Hard</u> Hard excavation shall be excavation in material that requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.	Very dense		16-50	-15																										
<u>Rock</u> Rock excavation shall be excavation in material other than described above which by nature of the material requires prior breaking using mechanical equipment, such as pavement breakers with moil points, before being removed from the trench	-	-	>50	>15																										
Employer:		Contractor																												
Witness:		Witness:																												

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

	5.1.1.2 Safeguarding of excavations g) The Contractor shall programme his activities in such a way that long sections of trenches do not lie open for undue periods of time, as it poses a security risk. The chambers shall be constructed as soon as possible after excavation and then backfilled. Under no circumstances shall excavations be left open for more than 1 week.
	5.2.2 Excavation h) Where the chambers are to be constructed in surfaced roads the Contractor shall neatly cut four parallel grooves into and through the asphalt before excavating between the grooves. The cost of this operation, where not scheduled separately it shall be deemed to have been included in the general rates for excavation. i) The Contractor shall maintain the bottoms of completed excavation in good condition. Excavation bottoms that are softened or eroded through stormwater, seepage water or otherwise, must be rectified by removal of the softened material and its replacement with approved material firmly compacted in layers not exceeding 150mm in compacted thickness or with 10MPa concrete where directed, at the Contractor's cost. The placing of hardcore or concrete screed shall be entirely at the Contractor's cost in any section of the work where softening of floors has been due to the method of excavation or inadequate provision for drainage. Bottoms of excavation in bad or waterlogged ground shall be excavated and replaced with hardcore filling, a hardcore base and/or a 20 MPa concrete screed as directed. i) Hardcore filling shall consist of 75 – 150 mm stone well rammed and compacted. ii) Hardcore base shall consist of 50 – 75 mm stone laid and compacted across the full width of the trench. Preparation of excavation bottoms shall be included in the schedule rates for excavation. Approved granular material imported to the site, or hardcore base, hardcore filling or concrete screed, used on trench floors shall be paid for separately, where such is not as a result of the Contractor's negligence.
	5.2.7 Backfilling In addition to the existing clauses, backfilling work shall be carried out in accordance with the COP.
	5.2.8 Disposal of unsuitable and surplus excavation material Excavated material that is unsuitable or has become surplus because of bulking, displacement by the chamber and/or pipework and importation shall be disposed of at approved tipping sites to be located by the Contractor. All unsuitable material shall be spoiled within 48 hours of excavation failing which the Engineer or his duly authorised representative shall be entitled to suspend work under the Contract. The prior approval of the Engineer must be obtained before surplus material may be deposited, spread and levelled at agreed sites within the area of the works.
	5.2.9 Construction in Headings Generally in soft material the buttresses and portions of ground left for the purpose of supporting the sides of the excavations or headings providing access to private properties, shall be broken down as the refilling and compaction proceeds.
	5.2.10 Compaction of areas subject to traffic loads In areas subject to traffic loading and in constructed footways compaction shall be done in accordance with the requirements specified in this Project Specification and the COP requirements.
	5.2.11 Kerbing Where the Contractor has, in the process of excavating, removed kerbing, of all types of shape and all material, he shall re-instate such kerbing to its original condition with regard to alignment (vertically and horizontally). This may include cleaning, but not patching. All kerbing damaged during the removal process shall be replaced at the cost of the Contractor.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

SANS 1200DB: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (PIPE TRENCHES)

VARIATIONS

Delete the following standard referenced clause:

Delete standard clause	Description	Comments
5.1.3	Accommodation of Traffic and Access to Properties	The Contractor shall comply with the requirements of the COP, PS 5.7 and PSA 5.9

Delete and replace the standard referenced clauses:

Delete standard clause	Replace with PSDB...

ADDITIONS

Add the following clauses:

Standard clause	Add PSDB.....
	PSDB8.3.1.1 Saw cut, remove and dispose of existing asphalt The rate shall cover saw, cut, removal, handling, transport and proper off-site site disposal of all types of existing asphalt and stone crush base up to a maximum thickness of 200 mm. Unit: m² PSDB8.3.1.2 Saw cut, remove and dispose of concrete (un-reinforced) The rate shall cover saw, cut, removal, handling, transport and proper off-site disposal of existing un-reinforced concrete of maximum thickness 300 mm. Unit: m² PSDB8.3.1.3 Saw cut, remove and dispose of concrete (reinforced) The rate shall cover saw, cut, removal, handling, transport and proper off-site disposal of existing reinforced concrete of maximum thickness 300 mm. Unit: m² PSDB8.3.1.4 Remove and temporarily store of paving block units The rate shall cover removal, handling, transport and proper storage of all types of existing paving block units for later re-instatement. Unit: m² PSDB8.3.1.5 Remove and temporarily store of grass sods The rate shall cover removal, handling, transport and proper storage and maintenance of existing grass in sods for later re-instatement. Unit: m² PSDB8.3.1.6 Remove and temporarily store all types of kerbing The rate shall cover removal, handling, transport and proper storage of all types of existing kerbing for later re-instatement. Unit: m

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

	PSDB 8.3.6 Finishing General The width of any trench through an area grassed or paved with bricks or pre-cast concrete units shall be the minimum practicable width, which in the opinion of the Engineer is sufficient. In the case of blocks this minimum area will be the minimum area over which units (whether bricks or pre-cast units) can be removed without requiring cutting. The Contractor's rate for supply and lay of asphalt must provide for all plant, labour and material costs associated with the work, including inter alia: The cost of the asphalt and foamed concrete, the collection, transport to site and placing in accordance with the SANS 1200MH specifications. All wastage and overbreak re-instatement costs, including the purchase of the asphalt and foamed concrete. <i>Add the following new clauses:</i> PSDB 8.3.6.1a Re-instatement of asphalt surfaces The rate shall cover supplying, loading, transporting and re-instatement all layers complete to previous levels (or levels to suite proper stormwater drainage), and surfacing Unit: m² PSDB 8.3.6.1b Re-instatement of concrete, complete The rate shall cover loading, transporting and re-instatement complete to previous levels (or levels to suite proper stormwater drainage), and surface finish of 15 MPa (minimum) un-reinforced concrete strength. The reinstated concrete shall also not exceed 300 mm but shall not be less than 50 mm.) Unit: m² PSDB 8.3.6.1c Re-instatement of paving blocks, complete The rate shall cover loading, transporting and re-instatement complete with bricks/pre-cast unit-receival area preparation, compaction (minimum 90%Mod AASHTO density), levelling, 20 mm river sand bedding, laying bricks/units, plaster sand jointing, and compaction. Unit: m² PSDB 8.3.6.1d Re-instatement of grass sods, complete The rate shall cover loading, transporting, and re-instatement complete with grass area including preparation, compaction, levelling, laying sods, topsoiling, and watering (water not from property supply). Unit: m² PSDB 8.3.6.1e Re-instatement of all types of kerbing, completing The rate shall cover loading, transporting and re-instatement complete with sand-cement bedding, laying units, mortar jointing, haunching, and backfilling, compaction (minimum 90 % Mod AASHTO density) and levelling behind kerbs. Unit: m PSDB 8.3.6.1f Re-instatement Top soil The rate shall cover loading, transporting, and re-instatement of all topsoil area, including preparation, compaction and levelling Unit: m²
--	--

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

SANS 1200C: CIVIL ENGINEERING CONSTRUCTION

VARIATIONS

Delete the following standard referenced clause: None

Delete standard clause	Description	Comments

Delete and replace the standard referenced clauses:

Delete standard clause	Replace with PSC...
5.3 (d)	CLEARING (d) the removal of all rocks and boulders of any size that are lying on the surface to be cleared or exposed during clearing operations.

ADDITIONS

Add the following clauses: None

Standard clause	Add PSC...
	8.2.5 Take down existing walls and fences The rate shall cover the cost of taking down existing fences (including any gates), on-loading, transporting, and off-loading, storing and maintaining or spoiling for the following: Unit: m²
	8.2.11 Removal of man-made surfaces The rate shall cover all plant, labour, material, saw cutting (asphalt and concrete), breaking up, lifting, loading, transportation, off-loading surfacing and storing (where applicable). Unit: m² a) Roadways, Asphalt and other layers i) Asphalt (≤ 50mm thick) and including base, sub-base and subgrades layers up to 800mm deep. ii) Asphalt ($> 50 \leq 100$mm thick) and including base, sub-base and subgrades layers up to 800mm deep. b) Footways and driveways i) Asphalt ≤ 50mm thickness ii) Asphalt $> 50 \leq 100$mm thickness iii) Interlocking concrete segmental paving blocks (all colours) iv) Concrete slabs (450 X 450mm) v) Brick paving vi) Unreinforced concrete ≤ 75mm thick vii) Reinforced concrete ≤ 75mm thick

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Standard clause	Add PSC...
	viii) Grassing ix) Kerbing (all types of kerbing) (Unit: m)
8.2.12.2	Backfilling and reinstatement footways Unit:m² Using removed materials: a) Interlocking concrete segmental paving blocks (all colours) b) Concrete slabs (450 X 450mm) c) Brick paving d) Grassing e) Kerbing



Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

SANS 1200L: CIVIL ENGINEERING CONSTRUCTION: MEDIUM-PRESSURE PIPELINES

VARIATIONS

Delete the following standard referenced clause:

Delete standard clause	Description	Comments

Delete and replace the standard referenced clauses:

Delete standard clause	Replace with PSL...																				
3.2	AC PIPES AND SPECIALS. AC pipes or specials shall not be used on this Contract, however erf connection saddles on existing AC secondary mains or specials for altering FC pipes shall be supplied by the Employer. Where: - in the opinion Engineer, repair or alteration to the AC is required as a negligence of the Contractor, the cost of the materials and Works implementation shall be for the expense of the Contractor. - so deemed the Engineer may instruct the replacement of a section of the existing AC pipes, which shall be addressed as a variation to the Works.																				
3.4.3	Pipes of a nominal bore over 150mm Steel pipes of nominal bore over 150mm shall comply with the applicable requirements of SANS 719, Grade B. The wall thickness of pipes shall: <table> <tr> <th>Range (mm)</th><th>Nominal bore wall thickness (mm)</th></tr> <tr> <td>150</td><td>4</td></tr> <tr> <td>200</td><td>4.5</td></tr> <tr> <td>250</td><td>5</td></tr> <tr> <td>300</td><td>6</td></tr> <tr> <td>400</td><td>6</td></tr> <tr> <td>500</td><td>8</td></tr> <tr> <td>600</td><td>10</td></tr> <tr> <td>> 600 ≤ 900</td><td>10.0</td></tr> <tr> <td>≤ 1,000</td><td>12.0</td></tr> </table>	Range (mm)	Nominal bore wall thickness (mm)	150	4	200	4.5	250	5	300	6	400	6	500	8	600	10	> 600 ≤ 900	10.0	≤ 1,000	12.0
Range (mm)	Nominal bore wall thickness (mm)																				
150	4																				
200	4.5																				
250	5																				
300	6																				
400	6																				
500	8																				
600	10																				
> 600 ≤ 900	10.0																				
≤ 1,000	12.0																				
3.7.1	uPVC High impact Class 16 pipes conforming to SANS10112 shall be used in the Works, unless otherwise specified by the Engineer. Where the cutting of any pipe is necessary, shouldered-ends shall be fixed to the pipe by means of an approved machine capable of: - clamping the pipe without causing any damage to the pipe; and - pressing on the shouldered-end by means of a hydraulic operated jack applying an uniform axial force to locate the shouldered-end truly in position. Application of any impact force to either the pipe or shouldered-end shall not be permitted.																				
3.7.2	Polyethelene Pipes Polyethylene pipes and fittings shall comply with the relevant requirements of SANS 4437, SANS 10112 and SANS 14236, and shall be Class 16 HDPE type IV plain ended pipes, unless otherwise indicated by the Engineer.																				
Employer:	Contractor																				
Witness:	Witness:																				

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

Delete standard clause	Replace with PSL...
3.8.3	Flanges and Accessories Each flanged pipe and fitting shall be supplied complete with one set of bolts, nuts and washers and one insertion piece of the appropriate diameter and made of a material suitable for the maximum test pressure. The drilling of steel and CI flanges shall conform to the requirements of SANS 1123 (table 1600/3), as applicable, appropriate to the class of pipe specified, except that a) in the case of flanges for hydrant and air valve matching tees, the drillings shall conform to the drilling of the valve supplied ; and b) in the case of CI flanges, where M27 and M33 bolts are specified in BS 4504 : Part 1, M24 and M30 bolts respectively shall be used as specified in SANS 1123.
3.9.4	Flexible couplings All cast iron, mild steel and galvanised iron fittings, valves, hydrants and all detachable couplings shall be wire brushed to remove all foreign particles including: rust, dust, sand and mud. A thin film of petro-primer (or similar approved) shall be applied to the entire surface. Petro-mastic (or similar approved) shall be packed around the coupling or fitting to provide an even contour ensuring that no air is entrapped. The mastic shall be prepared to completely cover all nuts, washers and bolts. A sufficiently wide wrap of petro-tape (or similar approved) shall be applied over the entire fitting overlapping by approximately 25%. The wrap shall then be smoothed by hand following the contour of the fitting, eliminating all air that may be entrapped under the tape. An outer layer of 150 micron layflat sheeting of sufficient width shall then be applied over the entire fitting with a 50% overlap. The end of the sheeting shall be secured to the existing pipe by means of adhesive tape.
3.9.6	Corrosive soil Corrosion protection for joints, bolts, nuts and washers shall be as detailed in clause 3.9.4, as amended for this Contract.
3.11.3	Concrete Unless otherwise required in terms of the project specifications, concrete shall comply with SANS 1200G or SANS 1200GA.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

Site Information

ADDITIONS

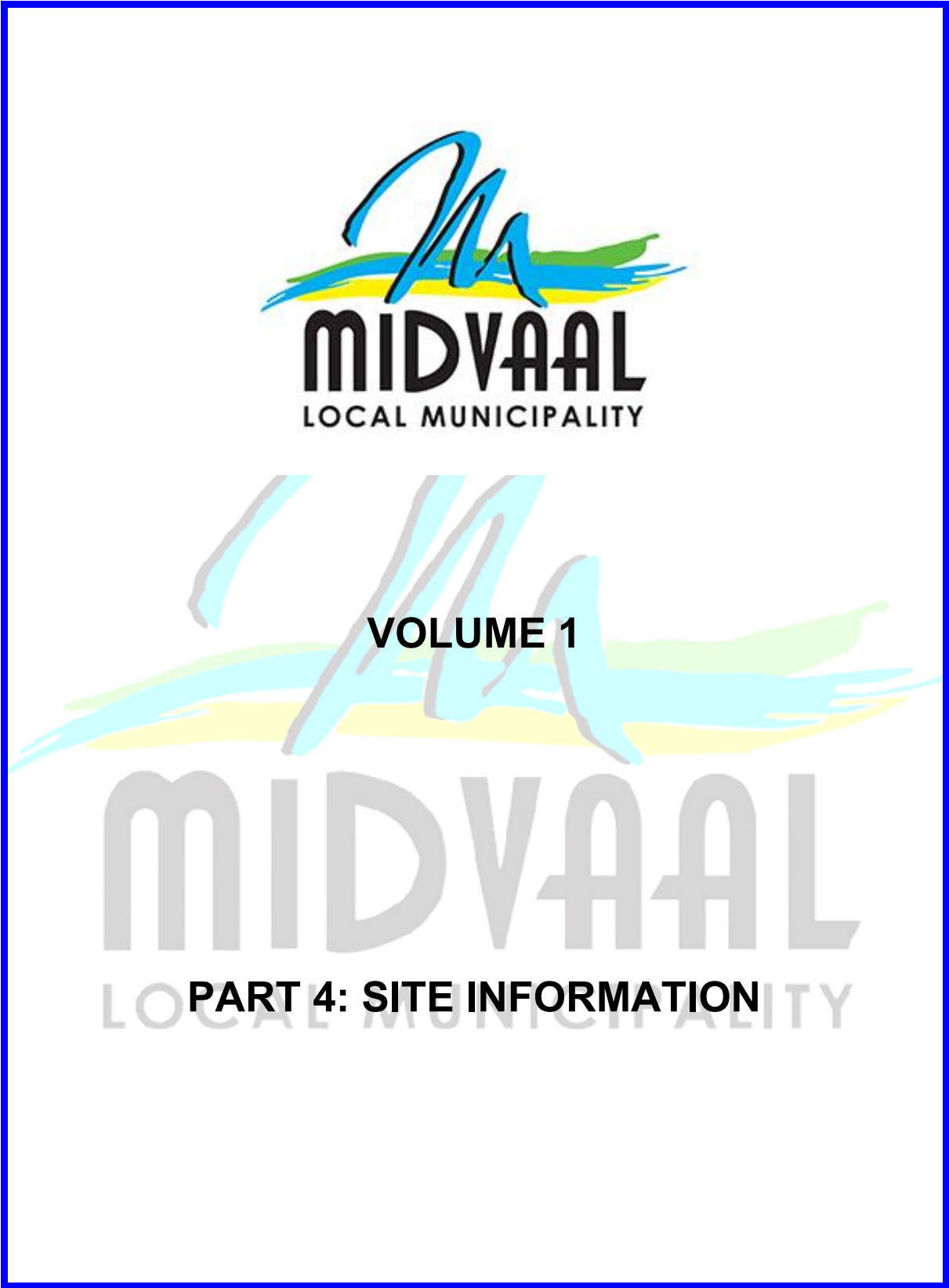
Add the following clauses:

Standard clause	Add PSL...
3.8	3.8.8 Jointing of shouldered-end pipes and fittings Joints in uPVC and medium steel shouldered-end pipes and fittings shall conform to SANS 815-1 and SANS 815-2, where fittings shall be cast or steel vitaulic clamps (or similar approved).
3.8	3.8.9 Jointing of HDPE pipes Jointing of HDPE pipes shall be by means: a) plasson (or similar approved) compression fittings for pipes less than 75mm in diameter. b) heat fusion welded, butt-welded for pipes greater than and equal to 75mm diameter, in accordance with SANS specification. The internal butt-welds shall not protrude by more than 4mm.
3.8	3.8.10 Welding Welding shall be Grade B spiral steel continuously welded pipe. The qualification of welders shall be in accordance with the relevant clauses of the above standards, and specifically SANS 044 Part III and shall be Grade 1 welders. Grade 2 welder shall be permitted only with the Engineer or his duly authorised representative's approval. The Contractor shall provide evidence, acceptable to the Engineer or his duly authorised representative, that welding procedures and welders have been tested in accordance with the requirements of AWS D1.1.

Employer:		Contractor	
Witness:		Witness:	

Volume	1	2				
Part	T1	T2	C1	C2	C3	C4

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Employer:		Contractor	
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Site Information

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Employer:		Contractor	
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Site Information

C4 SITE INFORMATION

T1.15GENERAL

This section describes the site at the time of tender to enable the tenderer to price his tender and to decide upon his method of working and programming and risks.

T1.16SITE LOCATION

The sites are situated throughout the Employer's area of jurisdiction.
The extent of works required for each project site shall be issued to the Contractor by means of work orders or instructions.

T1.17ACCESS TO SITE AND RESTRICTIONS

Although the works are located on sites within the Employer's property and/or reserve, the Contractor shall have to obtain permission from various authorities in order to completed excavations to execute the works required as part of this Contract. Any other permission as may become necessary shall be the responsibility of the Contractor to obtain.

Having been granted access to works areas by the Employer, other service authorities and private owners, the Contractor shall adhere to any agreed conditions of access and ensure the works area is left in a condition similar to when it was first accessed.

T1.18EXISTING SERVICES, SERVITUDES AND WAYLEAVES

For detailed specification the Contractor shall refer to clauses PS1.5 (Temporary Works), PS4.5 (Existing services), and PS4.8 (Permits and wayleaves).

T1.19SECURITY

The Contractor shall be responsible for the security of his personnel, materials, equipment and construction plant on and around the site of the Works and for the security of his camp (if applicable). The Employer in this regard will consider no claims.

Refer to clause PS6.1 (Security)

T1.20NATURE OF GROUND AND SUBSOIL CONDITIONS

Since no geotechnical investigation has been done and the wide spread locations of the sites, the ground and subsoil conditions may vary substantially. It shall be the Contractor's responsibility to acquaint himself with the conditions on the various sites.

Employer:		Contractor	
Witness:		Witness:	