NGWATHE LOCAL MUNICIPALITY

CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES

CONTRACT No. NLM: TEC-02/06/2026

Name of Tenderer:

……..……..……..……..…

Tender Amount (VAT incl.): ……

Construction Period (weeks): ……..(including all holidays)

This tender closes at Monday, 13 July 2026, 12h00pm at the offices of Ngwathe Local Municipality located at Liebenbergstrek, Parys, 9585

NO LATE SUBMISSIONS WILL BE CONSIDERED

Issued by:	**Principal Agent:**
Ngwathe Municipality Liebenburg Street Commando Building Parys 9585 Contact Name: Ms P. Morokolo Telephone: (056) 816 2700	**Atiso Consulting Engineers** 87, 4th Avenue Westedene 2092 Contact Name: Atiso Serge Ngamba Tel: (+27) 78 138 1392

EXPANDED PUBLIC WORKS PROGRAMME
Creating opportunities towards human fullfilment

NGWATHE LOCAL MUNICIPALITY

CONTRACT NO. NLM: NLM: TEC-02/06/2026
for
CONSTRUCTION OF MUNICIPAL OFFICES

Tender section of document: **Pages T1 – T63**
Contract section of document: **Pages C1 - C136**

CONTENTS

DOCUMENT CHECKLIST

This document checklist is provided to assist the Tenderer.

	ITEMS	CHECKED
1	Returnable Schedules in Section T2.2	☐
2	Correct Tender Offer carried forward to **Form of Offer and Acceptance** and the Form of Offer duly completed and signed……	☐
3	Schedule of Quantities:	
	i) Completed in **legible INK** only……	☐
	ii) Corrections crossed out and initialled ……	☐
4	Contract specific data provided by the Contractor ……	☐

T1: TENDERING PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

NGWATHE LOCAL MUNICIPALITY

TENDER NOTICE AND INVITATION TO TENDER

Bidders are hereby invited to bid for the following project:

BID NUMBER	BID DESCRIPTION	COMPULSORY INFORMATION SESSION DATE & VENUE	EVALUATION CRITERIA	CONTACT PERSON	CLOSING DATE & TIME
NLM: TEC-02-06/2026	**APPOINTMENT OF CONTRACTOR FOR: CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES** **CIDB Grading 5GB or Higher**	**Compulsory Meeting** Date: 08 July 2026 Venue: Municipal Offices, Edenville Time:10:00am **Non- Refundable Fee** R1,500	80/20 80 Points – Price 20 Points – Specific Goals Functionality included in the bid document	Ms P Morokolo Technical Director ☎:(0)56 817 2700 :morokolom@ngwathe.co.za **For SCM Enquiries** Mr R Malamule ☎:(0)56 816 2700 : richardm@ngwathe.co.za	**13 July 2026 (Monday) @ 12H00pm**

PAYMENTS CANNOT BE MADE AT SUPPLY CHAIN MANAGEMENT OFFICE BUT CAN BE MADE AT THE FOLLOWING MUNICIPAL PAY POINTS: - PARYS FINANCE DEPARTMENT (TOWNHALL) - VREDEFORT MUNICIPAL OFFICES - EDENVILLE MUNICIPAL OFFICES - KOPPIES MUNICIPAL OFFICES - HEILBRON MUNICIPAL OFFICES	ALTERNATIVELY, DIRECT OR ELECTRONIC DEPOSITS CAN BE MADE TO THE NLM BANK ACCOUNT: ABSA, ACCOUNT NO: 000004052707733 BRANCH CODE: 632005 REF NO: YOUR BID NUMBER AND BIDDERS NAME
Availability of Bids Documents: (Tuesday, 30 June 2026)	Bid documents to be collected and submitted at: Supply Chain Management Unit and Municipal Tender Box, Ngwathe Local Municipality offices, Liebenbergstrek, Crescent, Parys, 9585.

The documents will be available on Ngwathe Local Municipality office at SCM Offices or through email after the municipality receives the proof of payment sent through to SCM on the provided email above.

Copy of the above bid is available at SCM Offices at a non-refundable amount as stipulated on the above column; payable by cash at the municipal cashier point or direct deposit with a proof of deposit).

The bid number to be used as reference and deposit slip must be submitted as proof of payment on collection of bid document.

The document maybe collected during working hours after 08H30 to 15H30, from **(Monday, 30 June 2026),** and during weekdays thereafter. The physical address for collection of bid / tender document is the office of Ngwathe Local Municipality, Ground Floor, Cashier's Office, Liebenbergstrek, Parys, 9585.

The bid documents can be downloaded on **E-Tender portal for free as from 28 June 2026.**

Tenders, completed in black ink as prescribed, shall be sealed in an envelope marked with bidder's address, Tender No. and Description and be deposited in the TENDER BOX at Ngwathe Local Municipality, Ground Floor, Liebenberstrek, Parys, 9585.

Compulsory: Bidder must submit two set of bid documents, (1) hardcopy and (1) electronic scanned copy of the original bid with supporting documents (soft-copy).
No bid will be accepted from persons in the service of the state.

No telegraphic, telefax, emailed and late Bids/Tenders will be accepted. Bids will remain valid for a period of 90 days.

Contractors must note that certain work within this project may only be constructed by using labour-based construction methods and Contractors must limit the utilization of their permanently employed personnel to key personnel, all other personnel and labourers must be recruited locally.

Preference will be given to Respondents based on their PPPFA status.

All bidders must ensure that they are registered on the National Treasury Central Suppler Database via the following link: https://secure.csd.gov.za

Since no business will be conducted with any bidder who is not registered on the CSD database

Bidders must take note that below outlined requirements are deemed compulsory and failure to submit will automatically disqualify bidders.:

- Valid company tax clearance certificate / tax compliance pin be attached
- Copy of the company registration certificate
- Director's certified ID copy
- Copy of company profile with clear references.
- CSD registration report.
- Relevant CIDB grading certificate (5GB or higher).
- Valid letter of good standing (COIDA) must be attached.
- Municipal rates & taxes for both the director and the company.
- All compulsory/ supplementary forms must be fully completed.
- Joint venture agreement (if the tenderer is a joint venture).
  In terms of Joint Venture: bidders must attach a joint venture agreement and ID (certified) copies of the Company's Directors; further to this, parties to the joint venture agreement must ensure that they submit all the required compulsory documents for each company as stated in the advert.
  A joint Grading certificate calculated by CIDB is required (5GB or higher).
- Compulsory briefing session will be conducted; any queries must be directed to technical director.

Ngwathe Local Municipality fully reserve the right not to accept the lower tender or accept the whole or part of the any tender or not to consider any tender submitted.

Dr F.P Mothamaha
Municipal Manager

T1.2 TENDER DATA

The Tender Data shall be read with the Standard Conditions of Tender in order to expand on the Tenderer's obligations and the Employer's undertakings in administering the tender process in respect of the project under consideration.

The Tender Data hereafter shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of Tender Data given below is cross-referenced to the relevant clause in the Standard 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, as printed in Board Notice 423 of 2019 in the Government Gazette No. 42622 of 2019 dated 08 August 2019.

The Standard Conditions of Tender make several references to the Tender Data which specifically applies 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 Tender Data given below is cross-referenced to the relevant clause in the Standard Conditions of Tender.

Tender Data Applicable to this Tender

Clause Number	Data / Wording
F.1.2	The **Tender Documents** consist of the following: (a) This **Project Document**, which contains the following: **PART T1: TENDERING PROCEDURES** T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data **PART T2: RETURNABLE DOCUMENTS** T2.1 List of Returnable Documents T2.2 Returnable Schedules **PART C1: AGREEMENTS AND CONTRACT DATA** C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Performance Guarantee C1.4 Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 C1.5 Retention Money Guarantee C1.6 Transfer of Rights **PART C2: PRICING DATA** C2.1 Pricing Instructions C2.2 Schedule of Quantities **PART C3: SCOPE OF WORKS** C3.1 Standard Specifications C3.2 Project Specifications C3.3 Particular Specifications **PART C4: SITE INFORMATION** C4.1 Locality Plan C4.2 Example of Contract Signboard Details C4.3 Existing Services Report (delete if not required) (b) **Drawings** (issued separately by the Employer).

Clause Number	Data / Wording
	(c) **'The Joint Building Contracts Committee® - Principal Building Agreement Edition 6.2 – May 2018'** issued by the South African Institution of Civil Engineering (abbreviated title 'JBCC'). This document is obtainable separately and Tenderers shall obtain their own copy. (d) "Standardized Specifications for Civil Engineering Construction" SANS 1200 and SANS 10400 (e) **'The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations 2014 (Government Gazette No 37305 of 7 February 2014, Notice No R. 84)'.** These documents are obtainable separately and Tenderers shall obtain their own copies. (f) **The Construction Industry Development Board Act No. 38 of 2000 as amended and the Regulations in terms of the CIDB Act 38 of 2000, Government Notice No 692 of 9 June 2004 as amended.** In addition Tenderers are advised, in their own interest, to obtain their own copies of the relevant Acts, Regulations and Standards referred to in this document as they are essential for the Tenderer to become acquainted with the basics of construction management, the implementation of preferential construction procurement policies, and participation of targeted enterprises and labour.
F.1.4	The Principal Agent is: Name of the firm: Atiso Consulting Engineers Contact person : Mr. Atiso Serge Ngamba Telephone : (+27) 78 138 1392 E-mail : serge@atiso-consulting.com / sergengamba2020@gmail.com
F.2.1	A Tenderer will not be eligible to submit a tender if: (a) the Contractor submitting the tender is under restrictions or has principals who are under restriction to participate in the Employer's procurement due to corrupt or fraudulent practices; (b) the Tenderer does not have the legal capacity to enter into the contract; (c) the Contractor submitting the tender is insolvent, in receivership, 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 the foregoing; (d) The Tenderer does not comply with the legal requirements stated in the Employer's procurement policy; (e) The Tenderer cannot demonstrate that he possesses the necessary professional and technical qualifications and competence, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract; (f) The Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract. (g) Only those tenderers who can demonstrate that they will have in their employ, management and supervisory staff satisfying the requirements of the scope of

Clause Number	Data / Wording
	work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders. The Established Contractor shall be registered in CIDB contractor grading designation 5GB or Higher. *In terms of the Free State Supply Chain Management Policy Framework, all suppliers of goods and services to the Province of Free State are required to register on the Central Supplier Database.* *Prospective suppliers should self-register on the CSD website* ***www.csd.gov.za****.* **IF THE SUPPLIER IS NOT REGISTERED AT THE CLOSING TIME OF TENDER, THE SUPPLIER WILL BE DISQUALIFIED AT THE TENDER EVALUATION PROCESS.**
F.2.1.5	**Labour-intensive competencies for supervisory and management staff** Only those tenderers who have in their employ management and supervisory staff satisfying the requirements of the Scope of Work for labour intensive competencies for supervisory and management staff are eligible to submit tenders. "The employer reserves to himself the right, in his sole discretion, to reject any tender where it appears to the employer that the tenderer does not comply with any of the requirements set out below."
F.2.7	The arrangements and venue for the compulsory Clarification Meeting are: Venue: Municipal Offices, Edenville, (refer to Section T1.1) Date: **Wednesday, 08 July 2026 at 10h00am** Contact person Ms P Morokolo Telephone: 056 816 2700 Fax: N/A Email: morokolo@ngwathe.co.za
F.2.8	Change 'five working days' to 'seven working days'. Working days shall be from Monday to Friday and shall exclude all gazetted public holidays.
F.2.10	All Tenderers must be registered for Value Added Tax (VAT) with the South African Revenue Services (SARS).
F.2.11	The tenderer shall not take the tender document apart. **Any tender submitted using a document that has been taken apart and reassembled shall be considered non-responsive in terms of subclause F.3.8 of the Conditions of Tender and such a tender shall be rejected.**
F.2.12	The requirements are as described in **SANS 1200 and SANS 10400 Standard Specifications for Civil Engineering Construction.**

Clause Number	Data / Wording
F.2.13	**F.2.13.3** Tender offers shall be submitted as an original only. Under no circumstances whatsoever may the tender forms be retyped or redrafted. Photocopies of the original tender documentation may be used, but an original signature must appear on such photocopies. **F.2.13.5** The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: **Location of Tender Box:** Ngwathe Local Municipality **Physical Address:** Liebenbergstrek, Parys **Identification Details:** Contract No. **NLM: TEC-02/06/2026** **F.2.13.6** A two-envelope system will **not be followed**.
F.2.15	The closing time for submission of Tender Offers is: **12h00 on, 13 July 2026 (Monday)** Telegraphic, telephonic, telex, facsimile, electronic, e-mailed and late tenders will not be accepted.
F.2.16	The tender offer validity period is **90 days** from the closing time for submission of tenders.
F.2.18	The tender must submit to the employer, names of all management and supervisory staff that will be employed to supervise the labour- intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
F.2.19	Access shall be provided for inspections and testing by personnel acting on behalf of the Employer.
F.2.22	This is not applicable.
F.2.23	The certificates as required in the Returnable Schedules and Forms must be provided with the tender for each party to a consortium / joint venture.
F.3.1	Change 'five working days' to 'seven working days'. Working days shall be from Monday to Friday and shall exclude all gazetted public holidays.
F.3.2	Change 'three days' to 'three working days'. Working days shall be from Monday to Friday and shall exclude all gazetted public holidays.
F.3.4	The time and location for opening of the tender offers are: Time**: 12h00 Date: Monday, 13 July 2026** Location / Venue: Parys Municipal Offices in Forum Building
F.3.5	A two-envelope system will **not be followed**.

Clause Number	Data / Wording		
F.3.11.3			
	Functionality	Points Allocation	Total
	EXPERIENCE ON SIMILAR PROJECTS FOR THE LAST 10 YEARS 5 X Completion Certificates & References Letters 4 X Completion Certificates & References Letters 3 X Completion Certificates & References Letters 2 X Completion Certificates & Reference Letters 1 X Completion Certificate & Reference Letter 0 X Completion Certificate & Reference Letter **NB: Documents must be on the letterhead of an institution and signed by the authorised signatories.**	 50 40 30 20 10 0	**50**
	PERSONNEL CAPACITY AND RESCOURCES RELEVANT TO SCOPE OF WORK Contracts Manager ≥ 5 years' experience in similar projects and minimum qualification - Bsc/BTech Civil Eng. (NQF 7) Construction Manager / Site Agent ≥ 5 years 'experience similar projects and minimum qualification - National Diploma Civil Eng. (NQF 6) Foreman ≥ 5 years 'experience similar projects and minimum qualification - (NQF 4) qualification Safety Officer ≥ 5 years' experience similar projects and minimum qualification - N.Dip Safety Management or related (NQF 6) **NB: Contracts Manager & Construction Manager / Site Agent cannot be the same person. In the event where both positions are allocated to the same person, a maximum of 5 points will be allocated.** **In the event where personnel has less than 5 years of experience in similar projects or minimum qualification, 0 points will be allocated.** **No points will be allocated for experience not related to building works as per this bid document.** **Should the bidding contractor be appointed, the above mentioned personnel cv's should be submitted to the Principal Agent within 14 days**	 5 5 5 5	**20**
	CONSTRUCTION METHOD STATEMENT: THE STATEMENT SHOULD <u>INCLUDE APPROACH, CONTRACT ADMINISTRATION, QUALITY MANAGEMENT</u>		**10**

	All above parameters are in the method statement If any of the above mentioned parameters not included in the method statement	10 0	
	FINANCIAL VIABILITY Bank Rating of A Bank Rating of B Bank Rating of C Bank Rating of D Bank Rating of E Bank Rating less than E – no points will be awarded	 10 8 5 3 1	**10**
	CONTRUCTION PROGRAMME OF WORKS Points will be allocated for a realistic, well-structured construction programme showing key milestones and Sequencing. If any of the above mentioned parameters not included in the programme of works, no points will be allocated	 10 0	**10**
	Maximum possible score for functionality	**100**	
	If the bidder scores ≤ 69 points, the bidder will be disqualified		
	Satisfactory ……70		
	Good ……90		
	Very good ……...100		

F.3.11.7	**Tenderers are required to submit supporting documents to score full point and must score at least 70% (70 out of 100) for quality, to qualify for further evaluation.** Stage 2: Scoring Financial and Preference Points The weighting of tender Price and Preference for the tender will be done by way of a point system: In the case of acquisition of services, works or goods up to a Rand value equal to or above R30 000 and up to R50 million: • 80 points are assigned to Price; and • 20 points are assigned to Preference. The total points for Price and Preference in each case above must add up to 100 points. In scoring Price using the formula given in sub clause F.3.11.7, the values of W1 and A shall be as follows: W1 = 90 points (for acquisition of services, works or goods up to a Rand equal to or above R30 000 and up to R50 million:); or The value of A shall be calculated using Table F.1, Formula 2 Option 1.

Clause Number	Data / Wording
F.3.11.8	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: 4.1.1 **Locality** Locality of the company/enterprise, if a portion of the 20/10 points is allocated to promote this goal, the following ownership percentage categories should be used. The points per percentage category will be determined in the tender specification document

Locality of supplier (Provide proof of address)	**Max = 10**
Within the boundaries of Ngwathe Local Municipality	10
Within the boundaries of Fezile Dabi District Municipality	6
Within the boundaries of Free State	4
Outside the boundaries of the Province	0

4.1.2. **Specific Goals**

Categories of person	**Number of points for preference (80/20 system)**	**Number of points for preference (90/10 system)**
Woman	10	5

Or

Categories of person	**Number of points for preference (80/20 system)**	**Number of points for preference (90/10 system)**
Youth	10	5

Or

Categories of person	**Number of points for preference (80/20 system)**	**Number of points for preference (90/10 system)**
Disability	10	5

Note; For the above tabled preferential points collectable for Woman, youth and people living with disability is 10 points. Should a bidder possess all categories as shown above, bidder scores a maximum of 10 points only.

F.3.13	**F.3.13.1** The legal requirements for acceptance of the tender offer are: (a) **Tender Defaulters Register** - the Tenderer or any of its principals is not listed on the register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. (b) **Abuse of the SCM System** - the Tenderer has not abused the Employer's Supply Chain Management System and has not been given a written notice to the effect that he has failed to perform on any previous contract. (c) **Declaration** - the Tenderer has indicated and declared whether or not a spouse, child or parent of the Tenderer is in the service of the State. (d) **Fraud and Corruption** - the Employer is satisfied that the Tenderer or any of his principals have not influenced the tender offer and acceptance by the following criteria: (i) having offered, promised or given a bribe or other gift or remuneration to any person in connection with the obtaining of this Contract; (ii) having acted in a fraudulent or corrupt manner in obtaining this Contract; (iii) having approached an officer or employee of the Employer or the Employer's Agent with the object of influencing the award of a Contract in the Tenderer's favour; (iv) having entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company to refrain from Tendering for this Contract or as to the amount of the Tender to be submitted by either party; (v) having disclosed to any other person, firm or company other than the Employer, the exact or approximate amount of his proposed Tender. The Employer may, in addition to using any other legal remedies, repudiate the Tender offer and acceptance and declare the Contract invalid should it have been concluded already. In addition to clauses F.2.1 and F.3.13, Tender Offers will only be accepted on condition that: a) the tenderer has in his or her possession an original Tax Clearance Certificate issued by the South African Revenue Services; b) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; c) the tenderer is not in arrears for more than THREE 3 months with municipal rates and taxes and municipal service charges; d) the tenderer or any of its directors is not listed in the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; and e) the tenderer has not: i) abused the Employer's Supply Chain Management System; or

Clause Number	Data / Wording
	ii) failed to perform on any previous contract and has been given a written notice to this effect; and f) 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 comprise the tender process In addition to the evaluation of Responsiveness and Functionality a financial risk analysis will be performed on the Tenderers having the highest ranking/number of points to verify that the rates entered in the Bill of Quantities are reasonable and balanced. Tenders may be disqualified if tendered rates are found to be distorted. Such evaluation will include "Rate Only" items.
F.3.17	• The number of paper copies of the signed contract to be provided by the Employer is **one (1)**.

T2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

1. This Project Document must be submitted as a whole and shall not be taken apart or altered in any way whatsoever. The following schedules and forms are contained in this document and are to be properly completed as required:

   (a) Returnable Schedules in T2.1.

   (b) C1.1 Form of Offer and Acceptance, A. Offer, on page C3.

   (c) Contract Specific Data Provided by the Contractor in C1.2.2 Part B.

   (d) Pricing Data in C2.2: Schedule of Quantities.

T2.1 RETURNABLE SCHEDULES

NOTE: The Tenderer is required to complete each and every schedule and form listed above to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete the schedules and forms to the satisfaction of the Employer may lead to rejection on the grounds that the tender is not responsive.

A. CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING

This is to certify that *(Tenderer)* .....

of (*address)* .....

.....

was represented by the person(s) named below at the compulsory clarification meeting held for all Tenderers **at the Municipality Offices at Edenville Town (refer to the Clarification Meeting Venue Plan in Section T1.1) on Wednesday, 08 July 2026, starting at 10h00am.**

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me
/ us to take account of everything necessary when compiling our rates and prices included in the tender.

Particulars of person attending the meeting:

Name: .....……..... Signature: .....….....

Capacity: .....

Attendance of the above person at the meeting is confirmed by the Employer's Agent, namely:

Name: .....…….....……..... Signature: .....

Capacity: .....……..... Date and Time: .....…….....

Municipal Stamp

Any tender submitted that does not bear the signature of the Employer's Agent on this page shall be considered non-responsive in terms of subclause F.3.8 of the Conditions of Tender and shall be rejected.

B. RECORD OF ADDENDA TO TENDER DOCUMENTS

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer and are attached hereto.

ADDENDUM No.	DATE

Please attach to this page a complete copy of each Addendum issued.

SIGNATURE: .....…….. DATE: ….....

(Of person authorized to sign on behalf of the Tenderer)

"Failure to complete, sign and date this form or failure to acknowledge receipt of each Addendum issued or failure to return with the tender submission a complete copy of each Addendum issued shall result in the tender being considered non-responsive in terms of subclause F.3.8 of the Conditions of Tender and such a tender shall be rejected."

C. COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: CSD number:

Section 5: 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 6: Particulars of companies and close corporations

Company registration number:

Close corporation number:

Tax reference number:

Section 7: MBD 4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 8: MBD 6 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 9: MBD 8 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 10: MBD 9 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

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

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

Signed		Date	
Name		Position	
Enterprise name			

Failure to complete, sign and date this form shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

D. MUNICIPAL BIDDING DOCUMENTS

SECTION A **MBD1**

INVITATION TO BID

YOU ARE HEREBY INVITED TO TENDER FOR REQUIREMENTS OF NGWATHE LOCAL MUNICIPALITY				
BID NUMBER: NLM: TEC-02/06/2026	**CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES**	**CLOSING DATE: 13 July 2026 (Monday)**	**CLOSING TIME:**	**12:00**
DESCRIPTION	**CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES**			

TENDER RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT *(STREET ADDRESS)*	
Ngwathe Local Municipality **Liebenbergstrek,** **Parys** **9585**	***Monday to Friday: 08:30 until 15:30*** Under no circumstances must suppliers submit their Tender offers/ responses to the official whose name appears on the inquiries.

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO		TECHNICAL ENQUIRIES MAY BE DIRECTED TO:	
CONTACT PERSON	**Mr Richard Malamule**	CONTACT PERSON	**Ms P Morokolo**
TELEPHONE NUMBER	**056 816 2700**	TELEPHONE NUMBER	**056 816 2700**
FACSIMILE NUMBER	N/A	FACSIMILE NUMBER	N/A
E-MAIL ADDRESS	richardm@ngwathe.co.za	E-MAIL ADDRESS	morokolom@ngwathe.co.za

SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		**OR**	CENTRAL SUPPLIER DATABASE NO:	MAAA
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, ANSWER THE QUESTIONNAIRE BELOW]	

QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?	☐ YES	☐ NO
DOES THE ENTITY HAVE A BRANCH IN THE RSA?	☐ YES	☐ NO
DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	☐ YES	☐ NO
DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	☐ YES	☐ NO
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 BELOW.

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 IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.**
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).
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 VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.6 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.

SIGNATURE OF BIDDER: ……

CAPACITY UNDER WHICH THIS BID IS SIGNED: ……
(Proof of authority must be submitted e.g., company resolution)

DATE: ……...

MBD 2

TAX CLEARANCE CERTFICATE REQUIREMENTS

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations.

1 In order to meet this requirement bidders are required to complete in full the attached form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.

2 SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.

3 The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.

4 In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.

5 Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website www.sars.gov.za.

6 Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za.

MBD 3.1

PRICING SCHEDULE – FIRM PRICES (PURCHASES)

NOTE: ONLY FIRM PRICES WILL BE ACCEPTED. NON-FIRM PRICES (INCLUDING PRICES SUBJECT TO RATES OF EXCHANGE VARIATIONS) WILL NOT BE CONSIDERED

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of Bidder…… Bid Number……...

Closing Time ……. ….. Closing Date ……..

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

ITEM NO.	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES INCLUDED)

- Required by: …….
- At: …….
  …….
- Brand and Model …….
- Country of Origin …….
- Does the offer comply with the specification(s)? *YES/NO
- If not to specification, indicate deviation(s) …….
- Period required for delivery …….
  *Delivery: Firm/Not firm
- Delivery basis ……

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

** “all applicable taxes” includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

MBD 3.2

PRICING SCHEDULE – NON-FIRM PRICES (PURCHASES)

NOTE: PRICE ADJUSTMENTS WILL BE ALLOWED AT THE PERIODS AND TIMES SPECIFIED IN THE BIDDING DOCUMENTS.

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of Bidder……	Bid number……
Closing Time ……	Closing Date ……

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

ITEM NO.	QUANTITY	DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES INCUDED)

- Required by: ……
- At: ……..……
- Brand and model ……..……
-
- Country of origin ……..……
- Does the offer comply with the specification(s)? *YES/NO
- If not to specification, indicate deviation(s) …….
- Period required for delivery ……
- Delivery: *Firm/Not firm

** ”all applicable taxes” includes value- added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

MBD 3.2

PRICE ADJUSTMENTS

A NON-FIRM PRICES SUBJECT TO ESCALATION

1. IN CASES OF PERIOD CONTRACTS, NON FIRM PRICES WILL BE ADJUSTED (LOADED) WITH THE ASSESSED CONTRACT PRICE ADJUSTMENTS IMPLICIT IN NON FIRM PRICES WHEN CALCULATING THE COMPARATIVE PRICES

2. IN THIS CATEGORY PRICE ESCALATIONS WILL ONLY BE CONSIDERED IN TERMS OF THE FOLLOWING FORMULA:

$$Pa = (1-V)Pt\left[D1\frac{R1t}{R1o} + D2\frac{R2t}{R2o} + D3\frac{R3t}{R3o} + D4\frac{R4t}{R4o} \right] + VPt$$

Where:

Pa	=	The new escalated price to be calculated.
(1-V) Pt	=	85% of the original bid price. **Note that Pt must always be the original bid price and not an escalated price.**
D1, D2..	=	Each factor of the bid price eg. labour, transport, clothing, footwear, etc. The total of the various factors D1,D2…etc. must add up to 100%.
R1t, R2t……	=	Index figure obtained from new index (depends on the number of factors used).
R1o, R2o	=	Index figure at time of bidding.
VPt	=	15% of the original bid price. This portion of the bid price remains firm i.e. it is not subject to any price escalations.

3. The following index/indices must be used to calculate your bid price:

Index……. Dated……. Index……. Dated……. Index……. Dated…….

Index……. Dated……. Index……. Dated……. Index……. Dated…….

4. FURNISH A BREAKDOWN OF YOUR PRICE IN TERMS OF ABOVE-MENTIONED FORMULA. THE TOTAL OF THE VARIOUS FACTORS MUST ADD UP TO 100%.

FACTOR (D1, D2 etc. eg. Labour, transport etc.)	PERCENTAGE OF BID PRICE

MBD 3.2

B

PRICES SUBJECT TO RATE OF EXCHANGE VARIATIONS

1. Please furnish full particulars of your financial institution, state the currencies used in the conversion of the prices of the items to South African currency, which portion of the price is subject to rate of exchange variations and the amounts remitted abroad.

PRICING SCHEDULE
(Professional Services)

PARTICULARS OF FINANCIAL INSTITUTION	ITEM NO	PRICE	CURRENCY	RATE	PORTION OF PRICE SUBJECT TO ROE	AMOUNT I FOREIGN CURRENC REMITTE ABROAD
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		
				ZAR=		

2. Adjustments for rate of exchange variations during the contract period will be calculated by using the average monthly exchange rates as issued by your commercial bank for the periods indicated hereunder: (Proof from bank required)

E

AVERAGE MONTHLY EXCHANGE RATES FOR THE PERIOD:	DATE DOCUMENTATION MUST BE SUBMITTED TO THIS OFFICE	DATE FROM WHICH NEW CALCULATED PRICES WILL BECOME EFFECTIVE	DATE UNTIL WHICH N CALCULATED PRIC WILL BE EFFECTIVE

MBD 3.3

MBD 3,3

PRICE SCHEDULE
(Professional Services)

Name of Bidder:…… Bid Number: ……

Closing Time: …….. Closing Date ……

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

ITEM NO	DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES INCLUDED)

1. The accompanying information must be used for the formulation of proposals.

2. Bidders are required to indicate a ceiling price based on the total estimated time for completion of all phases and including all expenses inclusive of all applicable taxes for the project. R……..……

3. PERSONS WHO WILL BE INVOLVED IN THE PROJECT AND RATES APPLICABLE (CERTIFIED INVOICES MUST BE RENDERED IN TERMS HEREOF)

4. PERSON AND POSITION	HOURLY RATE	DAILY RATE
----------	R----------	----------
----------	R----------	----------
----------	R----------	----------
----------	R----------	----------
----------	R----------	----------

5. PHASES ACCORDING TO WHICH THE PROJECT WILL BE COMPLETED, COST PER PHASE AND MAN-DAYS TO BE SPENT

----------	R----------	---------- days
----------	R----------	---------- days
----------	R----------	---------- days
----------	R----------	---------- days

5.1 Travel expenses (specify, for example rate/km and total km, class of airtravel, etc). Only actual costs are recoverable. Proof of the expenses incurred must accompany certified invoices.

DESCRIPTION OF EXPENSE TO BE INCURRED	RATE	QUANTITY	AMOUNT
----------	……	……..	R……..
----------	……	……..	R……..
----------	……	……..	R……..
----------	……	……..	R……..

**"all applicable taxes" includes value-added taxes, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

5.2 Other expenses, for example accommodation (specify, eg. Three star hotel, bed and breakfast, telephone cost, reproduction cost, etc.). On basis of these particulars, certified invoices will be checked for correctness. Proof of the expenses must accompany invoices.

DESCRIPTION OF EXPENSE TO BE INCURRED	RATE	QUANTITY	AMOUNT
----------	.....	.....	R.....
----------	.....	.....	R.....
----------	.....	.....	R.....
----------	.....	.....	R.....

TOTAL: R……

6. Period required for commencement with project after acceptance of bid .....

7. Estimated man-days for completion of project .....

8. Are the rates quoted firm for the full period of contract? .....*YES/NO.

9. If not firm for the full period, provide details of the basis on which adjustments will be applied for, for example consumer price index.....

.....

.....

.....

*Delete if not applicable

MBD 4

DECLARATION OF INTEREST

Every question must be answered individually on this form and the required information must be provided, whether a relationship is present or not. Failure to do so will invalidate your tender.

1. Any legal person, including persons employed by the State[1], 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. 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 whether:

    - the tenderer is employed by the State; and/or
    - the legal person (tendering entity) on whose behalf the tender 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 questions must be answered, and the required information provided and submitted with the tender.**

2.1 The names of all directors/shareholders/members/partners/individual owners/trustees and their individual identity numbers and tax reference numbers are to be inserted in the table below. If applicable, State Employee / PERSAL numbers must be indicated in the last column.

Full Name	**Position held (director, shareholder, member, partner, individual owner, trustee, etc.)**	**Identity Number (or Passport Number in the case of a foreign national)**	**Personal Income Tax Reference Number**	**State Employee Number / Persal Number if applicable**

If the space provided above is insufficient, details as specified above can be attached on separate pages. However, if such separate pages are attached, this must be clearly indicated in the table above.

[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) as amended.
(b) any municipality or municipal entity;
(c) any provincial legislature;
(d) the 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.

2.2. Full names of tenderer and his or her representative:

Name of tenderer:.....

Name of tenderer's representative: .....

2.3. Identity Number:

Identity Number of tenderer's representative: .....

2.4. Position (e.g., director/shareholder/member/partner/individual owner/trustee) occupied in the company/close corporation/partnership/sole proprietorship/trust (referred to hereinafter as the "tendering entity"):

Position of tenderer's representative: .....

2.5. Registration number of tendering entity:

.....

2.6. Tax reference number of tendering entity:

.....

2.7. VAT registration number of tendering entity:

.....

If the space provided for any of paragraphs 2.8 to 2.14 below is insufficient, the required information can be attached on separate pages. However, if such separate pages are attached, this must be clearly indicated in the relevant paragraph below.

2.8. Are you or any person connected with the tenderer presently employed by the State? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

If yes, furnish the following particulars:

2.8.1. Name of director/shareholder/member/partner/individual owner/trustee/other connected person:

.....

2.8.2. Name of State institution which employs you or the person connected to the tenderer:

.....

2.8.3. Position occupied in the State institution:

.....

2.8.4. Any other particulars:

.....

.....

.....

2.9. If the State presently employs you or any person connected with the tenderer, was the appropriate authority to undertake remunerative work outside employment in the public sector obtained from the State? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

2.9.1. If yes, attach proof of such authority to the tender document. (Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the tender). **Kindly mark the applicable block with a tick √ to indicate whether such proof has been attached to the tender document.**

YES	
NO	

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

.....

.....

.....

2.10. Did you or your spouse or any of the tendering entity's directors/shareholders/members/partners/individual owners/trustees or their spouses conduct business with the State in the previous twelve months? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

2.10.1. If yes, furnish particulars:

.....

.....

.....

2.11. 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 or adjudication of the tender? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

2.11.1. If yes, furnish particulars:

.....

.....

.....

2.12. 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? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

2.12.1. If yes, furnish particulars:

.....

.....

.....

2.13. Do you or any of the tendering entity's directors/shareholders/members/partners/individual owners/trustees have any interest in any other related companies that are or could be tendering for this contract? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

2.13.1. If yes, furnish particulars:

.....

.....

.....

2.14. Have you or any of the tendering entity's directors/ shareholders/ members/ partners/ individual owners/ trustees or the tendering entity in general provided any gifts, rewards, awards, sponsorships, donations or hospitality to Ngwathe Local Municipality or any of its employees or their families in the last 12 months? **Kindly mark the applicable answer with a tick √.**

YES	
NO	

2.14.1. If yes, furnish particulars, including the estimated value:

.....

.....

.....

3. DECLARATION

I, THE UNDERSIGNED ***(full name of signatory)*** .....

REPRESENTING ***(name of tendering entity)*** .....

IN MY CAPACITY AS .....

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPH 2 ABOVE IS CORRECT (WHERE APPLICABLE, I HAVE TAKEN REASONABLE DILIGENT STEPS AS REQUIRED BY S76 OF THE COMPANIES ACT No. 71 of 2008, TO ENSURE THAT THE INFORMATION PROVIDED IS CORRECT).

I ACCEPT THAT THE STATE MAY REJECT THE TENDER OR ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

SIGNATURE: .....

DATE: .....

MBD 5

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

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

1 Are you by law required to prepare annual financial statements for auditing?

1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

.....

.....

2 Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days? ***YES / NO**

2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

2.2 If yes, provide particulars.

.....

.....

.....

.....

* Delete if not applicable

3 Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non- compliance or dispute concerning the execution of such contract? ***YES / NO**

3.1 If yes, furnish particulars

.....

……

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? ***YES / NO**

4.1 If yes, furnish particulars

……..

……..

CERTIFICATION

I, THE UNDERSIGNED (NAME) ……

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

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

…….. ……..
Signature Date

…….. ……..
Position Name of Bidder

MBD 6.1

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

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

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

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1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:
- the 80/20 system for requirements with a Rand value of up to R1 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R1 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to exceed/not exceed R1 000 000 (all applicable taxes included) and therefore the……system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

(a) Price; and

(b) PPPFA Policy- Specific Goals

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

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS must not exceed	**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 purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

2.1 **"all applicable taxes"** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

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

2.3 **"comparative price"** means the price after the factors of a non-firm price and all unconditional discounts

that can be utilized have been taken into consideration;

2.4 **"consortium or joint venture"** 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;

2.5 **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

2.6 **"EME"** means any enterprise with an annual total revenue of R5 million or less .

2.7 **"Firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

2.8 **"functionality"** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;

2.9 **"non-firm prices"** means all prices other than "firm" prices;

2.10 **"person"** includes a juristic person;

2.11 **"rand value"** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

2.12 **"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;

2.13 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;

2.14 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and

2.15 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

3.1 The bidder obtaining the highest number of total points will be awarded the contract.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;.

3.3 Points scored must be rounded off to the nearest 2 decimal places.

3.4 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

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

1.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

80/20

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

Where

Ps = Points scored for price of tender under consideration;

Pt = Price of tender under consideration; and

Pmin = Price of highest acceptable tender.

2. POINTS AWARDED FOR SPECIFIC GOALS

2.1 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:

2.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that 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 organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	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)	Supporting Documents to claim points
Within the boundaries of Ngwathe Local Municiality	-	10			Proof of Residence/Municipal Account
Within the boundaries of Fezile Dabi District Municipality	-	6			
Within the boundaries of Free State	-	4			
Outside the boundaries of the Free State Province	-	0			

One (1) of the three (3) below categories must be chosen (Woman, Youth and Disability), and if the company is 51% Man shareholding then 0 points.

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)	Supporting Documents to claim points
Woman Ownership	-	10			Copy of shareholding certificate

And/or

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)	Supporting Documents to claim points

Youth Ownership	-	10			Copy of shareholding certificate

And/or

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)**	**Supporting Documents to claim points**
Disability Ownership	-	10			Copy of shareholding certificate/Proof of disability

5. DECLARATION WITH REGARD TO COMPANY/FIRM

5.1 Name of firm :.....

2.3 Name of company/firm:…….

2.4 VAT registration number:……

2.5 Company registration number:…….

2.6 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]

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

i) The information furnished is true and correct;

ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;

iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –

(a) disqualify the person from the tendering process;

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

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

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

(e) forward the matter for criminal prosecution, if deemed necessary.

SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME: .....

DATE: .....

ADDRESS: .....

MBD 6.2

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

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

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (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, 2011 (Regulation 9) makes provision for the promotion of local production and content.

1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

1.3. 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.

1.4. 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- 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 the South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as required 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 at no cost.

1.5. A bid may be disqualified if –

(a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and

(b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

2.1. **"bid"** includes written price quotations, advertised competitive bids or proposals;

2.2. **"bid price"** price offered by the bidder, excluding value added tax (VAT);

2.3. **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

2.4. **"designated sector"** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;

2.5. **"duly sign"** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility(close corporation, partnership or individual).

2.6. **"imported content"** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour and intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;

2.7. **"local content"** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;

2.8. **"stipulated minimum threshold"** means that portion of local production and content as determined by the Department of Trade and Industry; and

2.9. **"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

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

Description of services, works or goods	Stipulated minimum threshold
_____	_____%
_____	_____%
_____	_____%

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

YES		NO	

4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by the 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.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?
(***Tick applicable box***)

YES		NO	

5.1. If yes, provide the following particulars:

(a) Full name of auditor:……

(b) Practice number: …….. (c)

Telephone and cell number:……. (d)

Email address: ……..

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. 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 Accounting Officer / Accounting Authority 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 Municipality / Municipal Entity):
..... 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.thedti.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.

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
(ii) the declaration templates have been audited and certified to be correct.

(c)The local content percentages (%) 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 / Municipality /Municipal Entity 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 / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE:_____ **DATE:** _____

WITNESS No. 1_____ **DATE:** _____

WITNESS No. 2_____ **DATE:** _____

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL BIDDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL BIDDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution)……. in accordance with the requirements and specifications stipulated in bid number…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Technical Specification(s);
   - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
   - Declaration of interest;
   - Declaration of bidder's past SCM practices;
   - Certificate of Independent Bid Determination;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and

   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

WITNESSES

1 …….

2. ……

DATE: …….

NAME OF FIRM ……

DATE ……

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I…… in my capacity as……..….. accept your bid under reference number ……dated……for the supply of goods/works indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating delivery instructions is forthcoming.

3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

ITEM NO.	PRICE (ALL APPLICABLE TAXES INCLUDED)	BRAND	DELIVERY PERIOD	LOCALITY AND HISTORICALLY DISADVANTAGED INDIVIDUALS	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

4. I confirm that I am duly authorized to sign this contract.

SIGNED AT

……ON…….. NAME

(PRINT) …….

SIGNATURE……..

OFFICIAL STAMP

WITNESSES

1. …….

2. …….

DATE …….

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)

1. I hereby undertake to render services described in the attached bidding documents to (name of the institution)……. in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Filled in task directive/proposal;
   - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2022;
   - Declaration of interest;
   - Declaration of Bidder's past SCM practices;
   - Certificate of Independent Bid Determination;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

DATE …….

WITNESSES

1 …….

2 …….

DATE: ……..

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES
PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I…… in my capacity as……..…… accept your bid under reference number ……dated……for the rendering of services indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating service delivery instructions is forthcoming.

3. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	PRICE (ALL APPLICABLE TAXES INCLUDED)	COMPLETION DATE	LOCALITY AND HISTORICALLY DISADVANTAGED INDIVIDUALS	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

4. I confirm that I am duly authorised to sign this contract.

SIGNED AT …… ON ……..

NAME (PRINT) …….

SIGNATURE ……

OFFICIAL STAMP

WITNESSES

1 …….

2 ……..……

DATE: ……..

MBD 7.3

CONTRACT FORM - SALE OF GOODS/WORKS

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL BIDDER (PART 1) AND THE SELLER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL BIDDER AND THE SELLER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to purchase all or any of the goods and/or works described in the attached bidding documents from (name of institution)…….…… in accordance with the requirements stipulated in (bid number)……..…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the seller during the validity period indicated and calculated from the closing time of bid.

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Declaration of interest;
   - Declaration of Bidder's past SCM practices;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) cover all my obligations and I accept that any mistakes regarding price(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.

5. I undertake to make payment for the goods/works as specified in the bidding documents.

6. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

7. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

ATE …….

WITNESSES

1 ……

2. ……..

DATE: ……..

MBD 7.3

CONTRACT FORM - SALE OF GOODS/WORKS PART 2 (TO BE FILLED IN BY THE SELLER)

1. I…… in my capacity as……..….. accept your bid under reference number ……dated……for the purchase of goods/works indicated hereunder and/or further specified in the annexure(s).

2. I undertake to make the goods/works available in accordance with the terms and conditions of the contract.

ITEM NO.	DESCRIPTION	PRICE (ALL APPLICABLE TAXES INCLUDED)		

4. I confirm that I am duly authorized to sign this contract.

SIGNED AT

……ON……..

NAME (PRINT) …….

SIGNATURE …….....

OFFICIAL STAMP	WITNESSES 1. ……. 2. ……. DATE … …….

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1 This Municipal Bidding Document must form part of all bids invited.

2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3 The bid of any bidder may be rejected if that bidder, or any of its directors have:

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:		
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:		

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**

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

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

2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:

a. take all reasonable steps to prevent such abuse;

b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and

c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.

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

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

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

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

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

_____

(Bid Number and Description)

in response to the invitation for the bid made by:

_____

(Name of Municipality / Municipal Entity)

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

on behalf of:_____ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:

    (a) has been requested to submit a bid in response to this bid invitation;

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

    (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium[3] will not be construed

as collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
    (a) prices;
    (b) geographical area where product or service will be rendered (market allocation)
    (c) methods, factors or formulas used to calculate prices;
    (d) the intention or decision to submit or not to submit, a bid;
    (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
    (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

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

MBD 9

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

.....	.....
Signature	Date
.....	.....
Position	Name of Bidder

D. CERTIFICATE OF AUTHORITY

The Tenderer must indicate the enterprise status by ticking the appropriate box hereunder.

(I) SOLE PROPRIETOR	(II) CLOSE CORPORATION	(III) PARTNERSHIP	(IV) COMPANY	(V) JOINT VENTURE / CONSORTIUM

The Tenderer must complete the relevant certificate(s) set out hereafter or must provide a certificate in the form of a resolution of the partners or directors authorizing the signatory on behalf of the enterprise(s) **and such resolution shall include a specimen signature of the signatory.**

Failure to complete, sign and date the relevant certificate(s) set out hereafter or failure to provide the certificate(s) in the form of a resolution as described above shall result in the tender being considered non-responsive in terms of sub clause F.3.8 of the Conditions of Tender and such a tender shall be rejected.

(I) CERTIFICATE FOR SOLE PROPRIETOR

I..... , hereby confirm that I am the sole owner of the

business trading as: ……..……...

Specimen Signature of Sole Owner: .....

Date: .....

(II) CERTIFICATE FOR CLOSE CORPORATION

I / We, the undersigned, being the key members in the business trading as..... ..... hereby authorize Mr/Ms ..... , acting in the capacity of....., to sign all documents in connection with the tender for Contract No..... and any contract resulting from it on our behalf.

Signatures of Members:

NAME	ADDRESS	SIGNATURE	DATE

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

Specimen Signature of Signatory: .....

Date: .....

(III) CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key partners in the business trading as

.....

hereby authorize Mr/Ms ….....……

acting in the capacity of..... , to sign all documents in connection with the tender for Contract No. ..... and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

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

Specimen Signature of Signatory: .....

Date: .....

(IV) CERTIFICATE FOR COMPANY

I ..... , chairperson of the Board of Directors

of ....., hereby confirm that by resolution of the Board

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

Mr/Ms ..... , acting in the capacity of

…......, was authorized to sign all documents in connection with this tender and any contract resulting from it on behalf of the company.

Signature of Chairman: .....

Specimen Signature of Signatory: .....

Date: .....

(V) CERTIFICATE FOR JOINT VENTURE / CONSORTIUM

[This Returnable Schedule is to be completed by a Joint Venture / Consortium]

We, the undersigned, are submitting this tender offer in Joint Venture / Consortium and hereby authorize Mr/Ms....., authorized signatory of the company

……, acting in the capacity of Lead Partner, to sign all documents in connection with the tender offer and any contract resulting therefrom on our behalf.

NAME OF COMPANY	ADDRESS	DULY AUTHORISED SIGNATORY
Lead Partner		Signature…… Name…… Designation…… Date……
		Signature…… Name…… Designation…… Date……..
		Signature…… Name…… Designation…… Date……..
		Signature…… Name…… Designation…… Date……

In addition to this Certificate of Authority on behalf of the JV or Consortium, separate Certificates of Authority are also required from each parent company to the Joint Venture or Consortium. These must be in the form of a resolution of the partners or directors authorizing the signatory on behalf of the enterprise to sign the JV or Consortium Certificate of Authority.

For example, if a joint venture partner is a limited liability company, then a resolution of the board of directors for that company is required to demonstrate that the person signing on behalf of the JV has the authority to do so from the parent company. The tenderer must do this either by using the relevant pro forma certificate (I), (II), (III) or (IV), as provided in this section D of the Returnable Documents, for that particular type of parent organization, or by providing a certificate in the form of a resolution of the partners or directors authorizing the signatory on behalf of the enterprise **and such resolution shall include a specimen signature of the signatory.**

E. 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 if my / our tender is accepted.

(a) Details of major plant and equipment owned by me / us and immediately available for this contract:

DESCRIPTION *(type, size, capacity, etc.)*	QUANTITY	YEAR OF MANUFACTURE

Attach additional pages if more space is required

(b) Details of major plant and equipment that will be hired or acquired for this contract if my / our tender is accepted:

DESCRIPTION *(type, size, capacity, etc.)*	QUANTITY	HOW ACQUIRED	
		HIRE/ BUY	SOURCE

Attach additional pages if more space is required

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract within the specified contract period.

SIGNATURE: .....…….... DATE: .....

(of person authorized to sign on behalf of the Tenderer)

F. EXPERIENCE OF TENDERER

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

EMPLOYER: CONTACT PERSON AND TELEPHONE NUMBER	EMPLOYER'S AGENT: CONTACT PERSON AND TELEPHONE NUMBER	NATURE OF WORK	VALUE OF WORK (inclusive of VAT)	DATE COMPLETED OR EXPECTED TO BE COMPLETED

Attach additional pages if more space is required

SIGNATURE: .....…….. DATE: .....

(of person authorized to sign on behalf of the Tenderer)

G. PROPOSED SUBCONTRACTORS

I/We hereby notify you that it is my/our intention to employ the following subcontractors for work under this contract. If I/we am/are awarded a contract I/we agree that this notification does not change the requirement for me/us to submit the names of proposed subcontractors in accordance with the requirements of the contract for such appointments.

Acceptance of this tender shall not be construed as approval of all or any of the listed subcontractors. Should any of or all of the subcontractors not be approved subsequent to the acceptance of the tender, it 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 below being approved by the Employer.

NAMES AND ADDRESSES OF PROPOSED SUBCONTRACTORS	NATURE AND EXTENT OF WORK TO BE SUBCONTRACTED	PREVIOUS EXPERIENCE WITH SUBCONTRACTOR

Attach additional pages if more space is required

SIGNATURE: .....…….. DATE: ….....

(of person authorized to sign on behalf of the Tenderer)

H. KEY PERSONNEL

The Tenderer must insert in the spaces provided below a list of the key personnel to be employed in the construction of the Works together with a resume of their experience with particular reference to the construction of similar Works.

Contractors
The unit standards for contractors or equivalent QCTO qualification are outlined in Table below.

The Tenderer shall attach the curriculum vitae of the listed key personnel to the next page.

DESIGNATION	NAMES	PROJECT TYPE	VALUE OF WORK	YEAR COMPLETED
CONTRACTS MANAGER Bsc/ BTech Civil Engineering or Construction Management and 5 Years Relevant Experience **SITE AGENT** NQF 5 LIC qualification, ND Civil Eng, Professional Registration with ECSA, 5 years' relevant experience and **FOREMAN** NQF 4 LIC qualification and 5-year relevant experience				

Attach additional pages if more space is required

SIGNATURE: .....…….. DATE: ….....

(of person authorized to sign on behalf of the Tenderer)

CURRICULUM VITAE OF KEY PERSONNEL

[Curriculum Vitae of key personnel to be attached here]

I. DEVIATIONS AND QUALIFICATIONS

Should the Tenderer wish to make any deviation from or any qualification to the Special Conditions of Contract, Specifications, Schedule of Quantities, or Drawings, or should he wish to qualify the tender in any way, he shall indicate the proposals clearly hereunder or alternatively on photocopies of the original tender documentation which shall be attached to this page.

Please note: The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permissible in terms of the Conditions of Tender. Please also refer to Returnable Schedule M.

SECTION	PAGE	DEVIATION OR QUALIFICATION, INCLUDING REFERENCE CLAUSE OR ITEM NUMBER

Attach additional pages if more space is required

SIGNATURE: .....…….. DATE: ….....

(of person authorized to sign on behalf of the Tenderer)

J. CONTRACTOR'S HEALTH AND SAFETY DECLARATION

- In terms of Clause 5(1)(h) of the OHSA 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993, as amended and the OHSA 1993 Construction Regulations 2014.

To that effect a person duly authorized by the Tenderer must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2014.

2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.

3. I propose to achieve compliance with the Regulations by one of the following:

   (a) From my own competent resources as detailed in 4(a) hereafter.....***Yes / No**

   (b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter .....***Yes / No**

   (c) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter.....***Yes / No**

   (***** = *delete whatever is not applicable*)

4. Details of resources I propose:

   Note: Competent resources shall include safety personnel such as the construction manager, construction health and safety officer and construction supervisor as defined in Regulation 8, and competent persons as defined in the OHSA 1993 Construction Regulations 2014, as applicable to this contract.

   (a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided? .....

(ii) When will training be undertaken? .....

(iii) List the positions to be filled by persons to be trained or hired: .....

(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor: .....

Qualifications or details of competency of the subcontractor: .....

.....

.....

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable, sufficiently documented and coherent site specific Health and Safety Plan in accordance with Regulation 7(1)(a) of the Construction Regulations, which plan shall be subject to approval by the Employer.

6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Health and Safety Specifications as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Employer's Agent, visitors, and officials and inspectors of the Department of Labour.

7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied in terms of the said Regulations (Regulation 33) as a result of contravening or failing to comply with the provisions of the Act and the Regulations.

8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2014, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

SIGNATURE: ..... DATE: .....….....

(of person authorized to sign on behalf of the Tenderer)

K. TAX COMPLIANCE STATUS

The Tenderer is to provide its Tax Compliance Status according to the South African Revenue Services (SARS) for the purposes of tendering.

It is a condition of tender that the taxes of the successful tenderer must be in order, or that satisfactory arrangements have been made with South African Revenue Services (SARS) to meet the tenderer's tax obligations.

1. **Tenderers must provide a TCS PIN with their tender (in the form of the TCS result letter) to authorize the Employer to view the tenderer's current TCS online, as well as a copy of the Tax Clearance Certificate which is printable after completing the TCS request.**

2. In tenders where Consortia / Joint Ventures are involved, each party must submit a separate TCS PIN and Tax Clearance Certificate.

L. SCHEDULE OF ALTERNATIVE TENDERS

The attention of tenderers is specifically drawn to clause F.2.12 Alternative tender offers of Annex F Standard Conditions of Tender and to clause F.2.12 of section T1.2 TENDER DATA in this project document.

An alternative tender offer or design shall be considered only if the main tender offer has also been submitted in accordance with the requirements of sub clauses F.2.12.1 and F.2.12.2 of Annex F and such main tender offer is the winning tender as stated in sub clause F.2.12.3 of Annex F.

The requirements are as described in **SANS 1200 Standard Specifications for Civil Engineering Construction.**

Such alternative offers shall be described, measured and priced in sufficient detail to enable the Employer to evaluate the alternative. The Tenderer shall set out the proposal clearly hereunder or alternatively on photocopies of the original tender documentation which shall be attached to this page.

SECTION	PAGE	ALTERNATIVE OFFER, INCLUDING REFERENCE CLAUSE OR ITEM NUMBER

SIGNATURE: ..... DATE: ...…….....

(of person authorized to sign on behalf of the Tenderer)

M. TENDERER'S PARTICIPATION IN WORK OPPORTUNITY CREATION USING LOCAL LABOUR

The Contractor shall be required to participate in work opportunity creation (employment of local labour) by executing various portions of the Works using local labour.

The creation of one work opportunity shall mean the employment, for any period of time, of one unskilled labourer from the local community who is a South African Citizen with his/her own unique South African identity document. Proof of citizenship may be audited during the contract period.

The Tenderer shall note the requirements for work opportunity Creation Reporting for EPWP as set out in clause F3 in Part F: Requirements of the Expanded Public Works Programme (EPWP) of the project specifications.

The minimum number of jobs to be created using local unskilled labour shall be as set out in the table below. This number is inclusive of the local unskilled labour employed to execute various portions of the Works by both the main Contractor and any subcontractors, including the small development subcontractors in terms of Part G: Small Contractor Development of the project specifications. The targeted labour goal stated in the table shall include for a minimum allocation of 55% Women, 55% Youth and 2% Disabled.

The Tenderer shall by the approval of this form commit to creating the minimum number of jobs in terms of job creation participation during the contract period, and this number shall not be less than the minimum stated in the table.

TENDERER'S DECLARATION WITH RESPECT TO PARTICIPATION IN JOB CREATION USING LOCAL LABOUR:

I/We hereby tender to participate in job creation through the employment of local labour as approved by the PLC as identified by the OSS War room by creating the following number of jobs using unskilled labour recruited from the local community (including for a minimum allocation of 55% Women, 55% Youth and 2% Disabled):

	Total	Women	Youth	Disabled
Work Opportunities				
Person Days				
Training Days				

Penalty = 0.5 x 9the value of the shortfall of Targeted Labour). It shall be applied on a pro-rata basis according to a monthly evaluation of achievements against the programmed utilization. It shall not apply to the individual Target Groups.

The tenderer must complete a standard table reflecting the labour force anticipated to be employed on this contract, including labour employed by sub-contractors. The Specified target value is 18%

Type of Labour	Person-Days	Wage Rate 3per unit	Total Wage Cost (Excl VAT)
Permanent Staff			
Temporary Staff			
SMME/HDEs Labour			
		Total	
		Percentage	

Notes to Tenderer:

(1) Labour is defined as hourly paid personnel

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the Tenderer, confirms that he/she understands the conditions for such participation and confirms that the tender satisfies the conditions for participation in work opportunity creation through the employment of local labour.

Name: ……

Duly authorized to sign on behalf of:

SIGNATURE: ..... DATE: .....

(Of person authorized to sign on behalf of the Tenderer)

N. TENDERER'S CONFIRMATION OF BANKING DETAILS AND ACCOUNT STATUS REPORT

The tenderer is required to request its bankers to prepare a general report on the tenderer's account status including, *inter alia*, how the tenderer conducts its account, the credit rating that the bank accords the tenderer for the business envisaged by this tender, and setting out the information requested in (a) to (d) below.

In addition to attaching the aforementioned general report from the bank, the tenderer shall also on this Form O complete in full the banking details required in each of (a) to (d) below.

In the event that the tenderer is a joint venture / consortium, a general report and details for each of the members of the joint venture / consortium shall similarly be provided and attached to this Form O.

(a) Name of account holder: .....

(b) Account number:.....

(c) Bank name: .....

(d) Contact details of banker:

Name: ……

Telephone Number: ……

E-mail address: ……

SIGNATURE: ..... DATE: ...…….....

(of person authorized to sign on behalf of the Tenderer)

"Failure to provide the required general report with the tender submission or failure to complete, sign and date this form shall result in the tender being considered non-responsive in terms of sub clause F.3.8 of the Conditions of Tender and such a tender shall be rejected."

CONTRACT

C1: AGREEMENTS AND CONTRACT DATA

C2: PRICING DATA

C3: SCOPE OF WORK

C4: SITE INFORMATION

CONTRACT

TABLE OF CONTENTS

C1: AGREEMENTS AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

A. OFFER

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

CONTRACT No. NLM: TEC-02/06/2026 – CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES

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 under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

The offered total of the prices inclusive of Value Added Tax is:

Amount in Words.....

……..…

…….

R..... (*in figures*)

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

Signature: *(of person authorized to sign the tender)*: .....

Name: (*of signatory in capitals)*: .....

Capacity: (*of Signatory*): .....

Name of Tenderer: (*organization*): .....

Address: ……..... .....

Telephone number: …… Fax number: .....

Witness:

Signature: .....

Name: *(in capitals):* .....

Date: .....

[Failure of a Tenderer to sign this form will invalidate the tender]

This form is to be completed by the Employer only

B. 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 Agreements and Contract Data (which includes this Agreement)
Part 2 Pricing Data, including the Schedule of Quantities
Part 3 Scope of Work
Part 4 Site Information

and the schedules, forms, 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 authorized representatives of both parties.

The Tenderer shall deliver the Guarantee in terms of Clause 6.2.1 of the General Conditions of Contract Third Edition (2015) within the period stated in the Contract Data, and he shall, immediately 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 Contract Data) to arrange the delivery of any other bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data, within 14 days of the date on which 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 Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

Signature: .....

Name: *(in capitals)* .....

Capacity: .....

Name of Employer *(organization)* .....

Address: .....

.....

Witness: Signature: ..... **Name:** .....

Date: .....

This form is to be completed by the Employer and the successful tenderer only, upon acceptance of the successful tenderer's offer

C. SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Tender Data and 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 agreement reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

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

4. Any change or addition to the tender documents arising from the above agreement 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: .....
.....

By the duly authorized 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 this 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 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: .....

Name: ....

Capacity: ....

Tenderer: *(Name and address of organization)* .....

.....

Witness:

Signature: .....

Name: .....

Date: .....

FOR THE EMPLOYER:

Signature: .....

Name: ....

Capacity: ....

Employer: *(Name and address of organization)* .....

.....

Witness:

Signature: .....

Name: .....

Date: .....

C1.2: CONTRACT DATA

C1.2.1: CONDITIONS OF CONTRACT

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C1.2.1 CONDITIONS OF CONTRACT

C1.2.1.1 GENERAL CONDITIONS OF CONTRACT

This Contract will be based on the "The Joint Building Contracts Committee® - NPC Principal Building Agreement Edition 6.2 – May 2018.

It is agreed that the only variations from the JBCC edition 6.2 – May 2018 are those set out hereafter under "C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT".

C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT

C1.2.1.2.1 G E N E R A L

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions of Contract shall amplify, modify or supersede, as the case may be, the JBCC edition 6.2 – May 2018 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions of Contract hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the JBCC edition 6.2 – May 2018, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the JBCC edition 6.2 – May 2018, and an appropriate heading.

C1.2.1.2.2 A M E N D M E N T S TO THE JBCC EDITION 6.2 – MAY 2018

SCC 1.1 Definitions

Add the following to the end of Clause 1.1:

"SCC 1.1.1.35 "Targeted Enterprise" means an enterprise as defined in Part G: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Works."

SCC 4.1.1 E x t e n t of Contractor's obligations

Add the following new paragraph to the end of Clause 4.1.1:

"If the Contractor fails to achieve the monetary value of the target set by the Employer for contract participation by Targeted Enterprises in terms of Part G: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Works, the Contractor shall be liable to the Employer for a sum calculated in accordance with the Contract Data and the aforementioned Scope of Works as a penalty for such underachievement."

SCC 6.2 Security

SCC 6.2.1 D e l i v e r y of security

In the last two lines of Clause 6.2.1, delete the words "the type of security for the due performance of the Contract, as selected in the Contract Data" *and replace them with the words* "a fixed performance guarantees as security for the due performance of the Contract in accordance with the Contract Data Part A: Data Provided by the Employer"*.*

Delete the entirety of Clause 6.2.2 and replace it with the following:

"SCC 6.2.2 Contractor failing to provide security

If the Contractor fails to provide the required fixed performance guarantee within the time period stipulated in the Contract Data, or if the performance guarantee shall differ substantially from the pro forma, it shall legally be deemed that the Contractor has selected a security of ten per cent retention of the value of the Works without limiting the Employer's right to terminate the Contract in terms of Clause 9.2."

SCC 6.2.3 Validity of performance guarantee

Delete the entirety of the first sentence of Clause 6.2.3 and replace it with the following:

"The Contractor shall ensure that the performance guarantee remains valid and enforceable until the Certificate of Completion is issued."

SCC 6.8.2 Application of the Contract Price Adjustment Factor

Add the following to the end of Clause 6.8.2:

"Referring to Clause 1 of the "CONTRACT PRICE ADJUSTMENT SCHEDULE" *on page 86 of the JBCC Edtion 6,2 – May 2018, delete the paragraph describing the symbols* "L", "P", "M" and "F"*, and replace it with the following:*

"L", "P", "M" and "F" are defined as follows:

"L" is the "Labour Index" and shall be the Consumer Price Index for the province as stated in the Contract Data as published in Table A of the Statistical release P0141 of Statistics South Africa.

"P" is the "Contractor's Equipment Index" and shall be the Producer Price Index for "Civil engineering plant" as published in Table 4 of the Statistical release P0151 of Statistics South Africa.

"M" is the "Materials Index" and shall be the Producer Price Index for the "Building and construction - Civil engineering" industry as published in Table 3 of the Statistical release P0151 of Statistics South Africa.

"F" is the "Fuel Index" and shall be the Producer Price Index for "Diesel fuel wholesale - Total" as published in Table 4 of the Statistical release P0151 of Statistics South Africa."

Additional Special Conditions of Contract

The following additional Special Conditions of Contract clauses SCC 1.1 and SCC 5.3 shall apply only in those circumstances where the Employer is required to apply for a construction work permit in terms of Construction Regulation 3(1):

SCC 1.1 Definitions

Delete the entirety of Clause 1.1.1.5 and replace it with the following:

"SCC 1.1.1.5 " Commencement Date" means the date 42 calendar days after the date that the Agreement, made in terms of the Form of Offer and Acceptance, comes into effect."

SCC 5.3 Commencement of the Works

Delete the entirety of Clauses 5.3.1, 5.3.2 and 5.3.3 and replace them with the following:

"SCC 5.3.1 Commencement of the Works

Upon the Employer's Agent's instruction, the Contractor shall, save as may be otherwise provided in the Contract, or be legally or physically impossible, commence carrying out the Works. Such instruction shall be provided not later than 14 days after the Commencement Date. Such instruction shall be subject to:

SCC 5.3.1.1 The timely submission by the Contractor, and approval by the Employer's Agent, of documentation required before commencing to carry out the Works and before the Employer applying for a permit to do construction work, as set out in the Contract Data,

SCC 5.3.1.2 Application by the Employer for a permit to do construction work in terms of Regulations 3(1) and (2) of the Construction Regulations 2014, and

SCC 5.3.1.3 Receipt by the Employer of the permit to do construction work.

SCC 5.3.2 Unacceptable documentation

If the documentation referred to in Clause SCC 5.3.1 is not submitted within the number of days stipulated in the Contract Data from the date that the Agreement, made in terms of the Form of Offer and Acceptance, comes into effect, or if such documentation is found to be unacceptable, the Employer may terminate the Contract in terms of Clause 9.2.

SCC 5.3.3 Time to instruct commencement of the Works

Where the Contractor delays the submission by the Employer of the application for a permit to do construction work and such permit is not received within 14 days following the Commencement Date such that the Employer's Agent's instruction to commence carrying out the Works cannot be given, without prejudice to the Employer's rights to terminate the contract under Clause 9.2, the Employer's Agent shall delay issuing the instruction to commence carrying out the Works until such time as the permit to do construction work has been received. The Contractor shall have no entitlement under Clause 5.12 to an extension of time for Practical Completion.

Where the permit to do construction work is not received within the 14-day period following Commencement of the Contract for reasons not attributable to the Contractor, the Employer's Agent shall delay the instruction to commence the Works and the Contractor shall be entitled to make a claim in accordance with Clause 10.1."

C1.2.2: CONTRACT DATA (Applicable to this contract)

PART A: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
1.	**GENERAL**
Clause 1.1.1.13:	The Defects Liability Period is 12 months.
Clause 1.1.1.14:	The time for achieving Practical Completion is 08 months from the Commencement Date, including non-working days and special non-working days.
Clause 1.1.1.26:	Pricing Strategy: The Contract is to be a Re-measurement Contract.
Clause 1.1.1.15:	**Name of Employer:** Ngwathe Local Municipality
Clause 1.2.1.2:	**Address of Employer:** Physical: Liebenbergstrek, Pary's, 9585 Postal: Private Bag 359, Pary's, 9585 E-Mail: morokolom@ngwathe.co.za Telephone No: (056) 816 2700 Fax No: N/A
Clause 1.1.1.16:	**Name of Employer's Agent: Atiso Consulting Engineers**
Clause 1.2.1.2:	**Address of Principal Agent:** Physical: 87, 4th Avenue Westdene 2092 Email: serge@atiso-consulting.com / sergengamba2020@gmail.com Telephone No: (+27) 78 138 1392 Fax No: n/a
3.	**PRINCIPAL AGENT**
Clause 3.2.3:	The Employer's Agent is required to obtain the specific approval of the Employer for any expenditure in excess of the Contract Price and before executing any of the following functions or duties: The issuing of a variation order in terms of Clause 6.3.2. Significant change in designs.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
4.	**CONTRACTOR'S GENERAL OBLIGATIONS**
Clauses 4.1.1 and SCC 4.1.1:	The penalty for failing to achieve the monetary value of the target set by the Employer for contract participation by Targeted Enterprises in terms of Part G: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Works, is 5% of the monetary value by which the achieved monetary value falls short of the target monetary value.
5.	**TIME AND RELATED MATTERS**
5.1.1	The special non-working days are public holidays, Sundays and the year end break. These days will be excluded from time calculations. The yearend break will be as agreed between SAFCEC and the Labour Unions.
Clauses 5.3.1 and 5.3.2:	Where the Employer **is not required** to apply for a permit to do construction work in terms of Construction Regulation 3(1), the following documentation is to be submitted within 14 days from the Commencement Date: The documents required before commencing to carry out the Works: • Health and Safety Plan (refer to Clause 4.3) • Initial Programme (refer to Clause 5.6) • Security (refer to Clause 6.2) • Insurance (refer to Clause 8.6) • Form C1.4 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993' to be signed by the Contractor and the Employer (refer to paragraph E9. CONTRACTOR'S RESPONSIBILITIES in Part E of C3.3 Particular Specifications)
Clauses SCC 5.3.1 and SCC 5.3.2:	Where the Employer **is required** to apply for a permit to do construction work in terms of Construction Regulation 3(1), the following documentation is to be submitted within 14 days from the date that the Agreement, made in terms of the Form of Offer and Acceptance, comes into effect: The documents required before commencing to carry out the Works: • Health and Safety Plan (refer to Clause 4.3) • Initial Programme (refer to Clause 5.6) • Security (refer to Clause 6.2) • Insurance (refer to Clause 8.6) • Form C1.4 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993' to be signed by the Contractor and the Employer (refer to paragraph E9. CONTRACTOR'S RESPONSIBILITIES in Part E of C3.3 Particular Specifications) And: The documents required by the Employer to apply for a permit to do construction work in terms of Regulations 3(1) and (2) of the Construction Regulations 2014: • Temporary works designer's appointment duties in terms of Regulation 6(2) as have been agreed upon plus proof of registration with ECSA

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
	[CR 3(5)(b)(iii) read with CR 5(1)(e) and CR 6(2)]; • Evidence that the contractor has made adequate provision for the cost of Health and Safety, i.e., Bill of quantities *[CR 3(5)(b)(iii) read with CR 5(1)(g)]*;
	• Evidence that the Principal contractor has the necessary competencies to carry out construction work safely, viz., schedule of activities, relevant appointments and proofs of competency *[CR 5(1)(h)]*; • Valid Letter(s) of Good Standing for the appointed Principal Contractor(s) *[CR 3(5)(b)(ii) read with CR 5(1)(j)]*.
Clause 5.4.2	Access to and possession of the site shall not be exclusive to the Contractor insofar as the provisions of Clause 4.8 apply and where ongoing use by the general public is required. The Contractor shall bear all costs and charges for special and temporary rights of way required by him in connection with access to the site.
Clause 5.8.1:	The non-working days are Sundays. The special non-working days are the construction industry year end break, all foreseeable statutory election days as declared by National Government, and the following statutory public holidays as declared by National Government: New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers' Day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and the Day of Goodwill. The construction industry year end break commences on the first working day after 15 December and ends on the first working day after 5 January of the following year.
Clause 5.13.1:	The penalty for failing to complete the Works is five thousand rand per day (R5 000,00 per day).
Clause 5.12.2.2	Extension of time due to abnormal rainfall. Refer to Part A of C3.2: Project Specifications, clause C3.5.
Clause 5.16.3:	The latent defects period is 5 years.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
6.	**PAYMENT AND RELATED MATTERS**
Clauses 6.2.1 and SCC 6.2.1:	The Performance Guarantee is to contain the wording of the document included in C1.3. The security to be provided by the Contractor shall be: Fixed Performance Guarantee of 10% of the accepted Contract Sum.
6.2.3	The expiry date shall be the date, of the issue by the Engineer, of the Certificate Of Practical Completion of the Works.
Clause 6.5.1.2.3:	The percentage allowance to cover overhead charges is 10%.
Clauses 6.8.2 and SCC 6.8.2:	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: The values of the coefficients for calculating the Contract Price Adjustment Factor are: x = 0.1 a = 0.15 (Labour) b = 0.20 (Plant) c = 0.55 (Materials) d = 0.10 (Fuel) The indices for “L”, “P”, “M” and “F” as published by SAFCEC. “L” is the “Labour Index” “P” is the “Contractor’s Equipment Index” “M” is the “Materials Index” “F” is the “Fuel Index” The “Consumer Price Index” will be as for the Province of Free State The base month is the month prior to the month in which the closing date for the tender falls. **Contract Price Adjustment is not allowed in this project**.
Clause 6.8.3:	Price adjustments for variations in the costs of special materials are allowed.
Clause 6.10.1.5:	The percentage advance on materials not yet built into the Permanent Works is 80%.
Clause 6.10.3:	The percentage retention on the amounts due to the Contractor is 10%. The limit of retention money is 5% of the tender offer excluding contingencies and VAT. A retention guarantee in lieu of a cash retention is permitted.
8.	**RISKS AND RELATED MATTERS**
Clause 8.6.1.1.2:	The value of Plant and materials supplied by the Employer to be included in the insurance sum is nil.
Clause 8.6.1.1.3:	The amount to cover professional fees for repairing or reinstatement of damage to the Works to be included in the insurance sum is nil.
Clause 8.6.1.2:	Special Risks Insurance issued by SASRIA is required.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
8.6.1.1.3	The amount to cover professional fees for repairing damages and loss to be included in the insurance sum is 10% of the value of the repair work.
Clause 8.6.1.3:	The limit of indemnity for liability insurance is R10 000 000,00 (ten million Rand only) for any single liability claim. Liability insurance shall include spread of fire risk.
10.	**CLAIMS AND DISPUTES**
Clause 10.5.3:	The number of Adjudication Board Members to be appointed is one.
Clause 10.7.1:	Unresolved disputes shall be referred to arbitration.
G1003	**CONTRACT PARTICIPATION**
Refer to Part C3: Scope of Works, section C3.3 Particular Specifications, Part G: Small Contractor Development	**(b) Contract Participation Targets** The Contract Participation Target for Targeted Enterprises is 30%

C1.2.2: CONTRACT DATA (Applicable to this contract)

PART B: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

<table>
<tr><th>REFERENCE</th><th>CONTRACT SPECIFIC DATA PROVIDED BY THE CONTRACTOR</th></tr>
<tr><td>1.

Clause 1.1.1.9:

Clause 1.2.1.2:</td><td>GENERAL

Name of the Contractor: ……
……..
Address of the Contractor:
Physical: Postal:
....
....
....
....
Email address: ……
Cell Number: ……</td></tr>
<tr><td>6.

Clause 6.8.3:</td><td>PAYMENT AND RELATED MATTERS

The Tenderer shall complete Table 1 below with respect to each of the special materials listed. This information shall be used to calculate the variation in cost of the special materials.

The rates and prices for the special materials shall be furnished by the Tenderer, which rates and prices shall not include VAT but shall include all other obligatory taxes and levies. The quoted price to be provided by the Tenderer is the ruling price on the first of the month prior to the month in which the closing date for the Tender falls.

Table 1
<table><tr><td>SPECIAL MATERIALS</td><td>UNIT*</td><td>RATE OR PRICE FOR THE BASE MONTH</td></tr><tr><td>N/A</td><td>N/A</td><td>N/A</td></tr></table>
* Indicate whether the material shall be delivered in bulk or in containers.
When called upon to do so, the Contractor shall substantiate the above rates or prices with acceptable documentary evidence.

Signed on behalf of Tenderer: ……</td></tr>
</table>

C1.3: PERFORMANCE GUARANTEE

PRO FORMA

1.3 CONSTRUCTION GUARANTEE

The contractor shall have the right to choose the Construction Guarantee as stated in the Contract Document CE, item 2.0

The Construction Guarantee options are:

i. Variable Construction Guarantee of 10% of the Contract Sum Yes ☐ No ☐

ii. Fixed Construction Guarantee of 10% of the Contract Sum Yes ☐ No ☐

A Signed letter of Intent to be submitted with the returnable document

NB. Guarantees submitted must be issued by either an insurance company duly registered in terms of the Short-Term Insurance Act, 1998 (Act 35 of 1998) or by a bank duly registered in terms of the Banks Act, 1990 (Act 94 of 1990) on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

The form of security to be provided shall not contain an expiry date

C1.3 CONSTRUCTION GUARANTEE (PRO-FORMA)

GUARANTOR DETAILS AND DEFINITIONS

Guarantor means . . . . . .

Physical address . . . . . .

. . . . . .

Guarantor's signatory 1 . . . . . Capacity . . . . . .

Guarantor's signatory 1 . . . . . Capacity . . . . . .

Employer means **Ngwathe Local Municipality**

Contractor means . . . . . .
Agent means . . . . . .

Works means
Site means The Site is identified as **CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES**

Agreement means JBCC Series 2000 Edition 6.2 , May 2018.

Principal Building Agreement

Contract Sum means The accepted amount inclusive of tax of R . . . . . .
Amount in words . . . . . .

Guaranteed Sum means The maximum aggregate amount of R . . . . . .

Amount in words . . . . . .

Construction Guarantee (Fixed or Variable) . . . . . .

VARIABLE CONSTRUCTION GUARANTEE

1.1 Where a variable Construction Guarantee in terms of the Agreement has been selected, this 1.0 with 3.0 to 13.0 shall apply. The Guarantor's liability shall be limited to the diminishing amounts of the Guaranteed Sum as follows:

GUARANTOR'S LIABILITY

1.1.1 Maximum Guaranteed Sum (not exceeding 10.0% of the contract sum) in the amount of: . . . . . .

PERIOD OF LIABILITY

From and including the date of issue of this Construction Guarantee and up to and including the date of the interim payment certificate certifying in excess of 50% of the contract sum

Amount in words: . . . . . .

GUARANTOR'S LIABILITY

1.1.2 Reducing to the Guaranteed Sum (not exceeding 6.0% of the contract sum) in the amount of: . . . . . .

PERIOD OF LIABILITY

From and including the day after the date of the aforesaid interim payment certificate and up to and including the date of the only practical completion certificate or last practical completion certificate, where there are sections

Amount in words: . . . . . .

GUARANTOR'S LIABILITY

1.1.3 Reducing to the Guaranteed Sum (not exceeding 4.0% of the contract sum) in the amount of: . . . . . .

PERIOD OF LIABILITY

From and including the day after the date of the applicable practical completion certificate and up to and including the date of the only final completion certificate or last final completion certificate, where there are sections

Amount in words: . . . . . .

GUARANTOR'S LIABILITY

1.1.4 Reducing to the Guaranteed Sum (not exceeding 2.0% of the contract sum) in the amount of:
.....

PERIOD OF LIABILITY

From and including the day after the date of the applicable final completion certificate and up to and including the date of the final payment certificate, where payment is due to the Contractor, whereupon this Construction Guarantee shall expire. Where the final payment certificate reflects payment due to the Employer, this Construction Guarantee shall expire upon payment of the full amount certified

Amount in words: . . . . . .

1.2 For avoidance of doubt, the Guarantor's liability limits set out in 1.1.1 to 1.1.4 shall apply in respect of any claim received by the Guarantor during the period in question

2.0 FIXED CONSTRUCTION GUARANTEE

2.1 Where a fixed Construction Guarantee in terms of the Agreement has been selected this 2.0 with 3.0 to 13.0 shall apply. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum as follows:

GUARANTOR'S LIABILITY

1.1.1 Maximum Guaranteed Sum (not exceeding 5.0% of the contract sum) in the amount of: . . . . . .

PERIOD OF LIABILITY

From and including the date of issue of this Construction Guarantee and up to and including the date of the only practical completion certificate or the last practical completion certificate where there are sections, upon which this Construction Guarantee shall expire

Amount in words: . . . . . .

3.1 The Guarantor hereby acknowledges that:

3.2 Any reference in this Guarantee to the Agreement is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a surety ship

3.3 Its obligation under this Guarantee is restricted to the payment of money

4.1 Subject to the Guarantor's maximum liability referred to in 1.0 or 2.0, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

4.2 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Principal Agent in an interim or final payment certificate has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2

4.3 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the first written demand in terms of 4.1 and that the sum certified has still not been paid therefore the Employer calls up this Construction Guarantee and demands payment of the sum certified from the Guarantor

4.4 A copy of the said payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in 4.0

5.1 Subject to the Guarantor's maximum liability referred to in 1.0 or 2.0, the Guarantor undertakes to pay the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Construction Guarantee stating that:

5.2 The Agreement has been cancelled due to the Contractor's default, and that the Construction Guarantee is called up in terms of 5.0. The demand shall enclose a copy of the notice of cancellation; or

5.3 A provisional sequestration or liquidation court order has been granted against the Contractor, and that the Construction Guarantee is called up in terms of 5.0. The demand shall enclose a copy of the court order

6.0 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4.0 and 5.0 shall not exceed the Guarantor's maximum liability in terms of 1.0 or 2.0

7.0 Where the Guarantor is a registered insurer and has made payment in terms of 5.0, the Employer shall upon the date of issue of the final payment certificate, submit an expense account to the Guarantor showing how all monies received in terms of the Construction Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Construction Guarantee shall bear interest at the prime overdraft rate of the Employer’s bank, compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund

8.0 Payment by the Guarantor in terms of 4.0 or 5.0 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor

9.0 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit, and the Guarantor shall not have the right to claim his release from this Construction Guarantee on account of any conduct alleged to be prejudicial to the Guarantor

10.0 The Guarantor chooses the physical address as stated above for all purposes in connection with herewith

11.0 This Construction Guarantee is neither negotiable nor transferable and shall expire in terms of either 1.1.4 or 2.1, or payment in full of the Guaranteed Sum or on the Guarantee expiry date, whichever is the earlier, where after no claims will be considered by the Guarantor. The original of this Construction Guarantee shall be returned to the Guarantor after it has expired

12.0 This Construction Guarantee, with the required demand notices in terms of 4.0 or 5.0, shall be regarded as a liquid document for the purpose of obtaining a court order

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

Signed at . . . . . Date . . . . . .

Guarantor’s Signatory 1 . . . . . Guarantor’s Signatory 2 . . . . . .

Witness . . . . . Witness . . . . . .

Guarantor’s seal or stamp

FIXED CONSTRUCTION GUARANTEE JBCC 2000 PRINCIPAL BUILDING AGREEMENT

1. With reference to the contract between _____

_ (hereinafter referred to as the "Contractor") and the Ngwathe Local Municipality (hereinafter referred to as the Employer"), Tender No. **NLM: TEC-02/06/2026** for **CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES** (herein after referred to as the "contract") in the

amount of R_____,

(_____),
(hereinafter referred to as the contract sum)

I/We, _____

in my/our capacity as_____and hereby

representing_____(hereinafter referred to as the **Guarantor"**) advise that

the **Guarantor** hold at the **Employer's** disposal the sum of R_____**,**

(_____**)** being____% of the **contract sum** (excluding VAT), for the due fulfilment of the contract.

2. The **Guarantor** hereby renounces the benefits of the exceptions *non numeratae pecunia, non causa debiti; excussionis et divisionis*; and all other exceptions which could be pleaded against the enforcement of this guarantee, with the meaning and effect whereof i/we declare myself/ourselves to be conversant, and undertake to pay the **Employer** the amount guaranteed, during the period when the claim is received by the **Guarantor**, on receipt of a written demand from the **Employer** to do so, and which demand the **Employer** may make if the **Employer** has a right of recovery against the **Contractor** in terms of 33.3 of the contract.

3. Subject to the above, but without in any way detracting from the **Employer's** rights to adopt any of the procedures provided for in the contract, the said demand can be made by the **Employer**, at any stage prior to the expiry of this guarantee.

4. The amount paid by the **Guarantor** in terms of this guarantee may be retained by the **Employer** on condition that upon the issue of the last final **payment certificate**, the **Employer** shall account to the **Guarantor** showing how this amount has been expended and refund any balance due to the **Guarantor.**

5. The **Employer** shall have the absolute right to arrange his affairs with the **Contractor** in any manner which the **Employer** deems fit and the **Guarantor** shall not have the right to claim his release on account of any conduct alleged to be prejudicial to the **Guarantor.** Without derogating from the aforegoing, any compromise, extension of the **construction period**, indulgence, release or variation of the **Contractor's** obligation shall not affect the validity of this guarantee.

6. This undertaking is neither negotiable nor transferable, and
   a) must be surrendered to the **Guarantor** at the time when the **Employer** accounts to the **Guarantor** in terms of clause 4 above, or
   b) shall lapse on the date of the last **certificate of practical completion;** and
   c) shall not be interpreted as extending the **Guarantor's** liability to anything more than payment of the amount guaranteed.

SIGNED AT_____ON THIS_____DAY OF_____20___

AS WITNESS

1. _____

2. _____

_____

By and on behalf of

_____

_____

(insert the name and physical address of the Guarantor)

NAME: _____

CAPACITY: _____

(duly authorized thereto by resolution attached marked Annexure A)

DATE: _____

A. No alterations and/or additions of the wording of this form will be accepted.

B. The physical address of the guarantor must be clearly indicated and will be regarded as the Guarantor's *domicilium citandi et executandi,* for all purposes arising from this guarantee.

C. This GUARANTEE must be returned to:

_____

_____

_____

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

THIS AGREEMENT is made between Ngwathe Local Municipality (hereinafter called the EMPLOYER) of the one part, herein represented by:

....

in his capacity as: .....

AND: ....

(hereinafter called the CONTRACTOR) of the other part, herein represented by.....

....

in his capacity as: .....

duly authorized to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatory of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of:

CONTRACT No. NLM: TEC-02/06/2026 CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES

for the construction, completion and maintenance of the works;

AND WHEREAS the EMPLOYER and the CONTRACTOR have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.

2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.

3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the EMPLOYER'S AGENT from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.

4. The CONTRACTOR agrees that any duly authorized officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to take such steps the EMPLOYER may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

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

Thus signed at ..... for and on behalf of the **CONTRACTOR**

on this the …… day of ……..……..…… 20……

SIGNATURE: .....

NAME AND SURNAME: .....

CAPACITY: .....

WITNESSES: *1.* .....

2. .....

Thus signed at ..... for and on behalf of the **EMPLOYER** on this

the ……... day of ……..…… 20……

SIGNATURE: .....

NAME AND SURNAME: .....

CAPACITY: .....

WITNESSES: *1.* .....

2. .....

C1.5: RETENTION MONEY GUARANTEE

PRO FORMA

RETENTION MONEY GUARANTEE

NGWATHE LOCAL MUNICIPALITY
PRIVATE BAG 395
PARYS
9585

CONTRACT No. _____FOR _____

ISSUED TO: NGWATHE LOCAL MUNICIPALITY (Hereinafter referred to as "the Employer")

ON BEHALF OF.....(Hereinafter referred to as "the Contractor")

In connection with

CONTRACT NO .....(Hereinafter referred to as "the Contract")

WHEREAS the Employer and the Contractor have agreed that the Contractor may provide a guarantee in lieu of the whole or portion of the retention monies provided for under the Contract;

NOW THEREFORE we, the undersigned, undertake, in accordance with the following provisions, to pay the Employer such amounts as the Employer may, from time to time, demand from us.

1. Each demand by the Employer shall be in writing signed by the Employer and delivered to us at

……
or such other address as we shall in writing notify to the Employer and shall be accompanied by a certificate complying with Clause 2, signed by the Employer's Agent as such in terms of the Contract.

2. The Employer's Agent's certificate referred to in Clause 1 shall certify

   (a) that he is the Employer's Agent in terms of the Contract,
   (b) that the Contractor is in breach of his obligations under the Contract, and
   (c) that the amount demanded, which amount the certificate shall specify,

      (i) does not exceed the amount of retention monies which, but for this guarantee, would have been retained by the Employer in terms of the Contract at the date of the certificate, less the aggregate of the amounts of retention money actually retained by the Employer and the amounts previously paid by us to the Employer in terms hereof, and

      (ii) does not exceed a genuine estimate of the cost to the Employer of having the breach referred to in paragraph (b) remedied less the aggregate of any amounts withheld by the Employer from payments due the Contractor in terms of the Contract by reason of the breach referred to, and any amount in retention money actually held by the Employer save to the extent that the same had been deducted from any previous demand in terms hereof.

3. We shall within 28 days after our receipt of a demand complying with the provisions of Clauses 1 and 2 make payment to the Employer of the amount demanded at Liebenergstrek, Parys, 9585 or at such other address as the Employer shall in writing notify us.

4. Subject to compliance with the provisions thereof, our liability to make the payments herein referred to shall be unconditional and shall not be affected nor diminished by any disputes, claims or counterclaims between the Employer and the Contractor.

5. Our aggregate liability under this guarantee is limited to R …….....…….

6. This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by the Employer, becomes payable to the Contractor.

7. This guarantee is not transferable and must be produced for endorsement if any part payment is made and must be returned to us against final payment of our aggregate liability or on the date of the expiry of the guarantee in terms of Clause 6, whichever is the earlier.

Signed in the presence of the witnesses named hereunder:

At …….…… for and on behalf of ……

on this …… day of ……

Signature: .....

Capacity: .....

Address: .....

As Witnesses:

1. …….. Name in Block Letters … .....

2. ..... Name in Block Letters .....

C1.6: TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY
(To be completed during construction by successful Tenderer only)

Claim for materials on site, Payment Certificate No. …… **Date:** ……..……..

Contract No: …… For (contract title) ……..……

……..……..……

I, the undersigned (name of signatory).....in my capacity as

……. of (name of Contractor) ……

duly authorized hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto, unto and in favour of (name of Employer) ……..

Insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium.*

I herewith indemnify the Employer against any claim to and in respect of said materials by reason of the Contractor's sequestration or liquidation or of any defect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

This transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table.

DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE	AMOUNT	SUPPLIER
TOTAL VALUE OF MATERIALS AND GOODS					

Signed by: ……Date: ……..……..……
for and on behalf of the Contractor.

Witnessed by: ……. Date: ……

NOTE: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of Clause 6.10.1.5 of the General Conditions of Contract 2015.

C2: PRICING DATA

C2.1 PRICING INSTRUCTIONS

1. GENERAL

1.1 Measurement and payment shall be in accordance with Clause 8 of the SANS 1200 Standardized Specifications for Civil Engineering Construction referred to in the Scope of Works, subject to the variations and amendments contained in the section “Applicable SANS 1200 standardized specifications”.

1.2 Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the Standardized Specifications. Clause 8 of each Standardized 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 Standardized Specification, or the Scope of Work, conflict with the terms of the Bill, the requirements of the Standardized or Scope of Work, as applicable, shall prevail.

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

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

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

1.6 The prices and rates to be inserted in the Bills of Quantities are to be the full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. The prices will be used as a basis for assessment of payment for additional work that may have to be carried out.

1.7 It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org or www.iso.org for information on standards).

1.8 Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items

1.9 A price or rate is to be entered against each item in the Schedule/Bills of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.

1.10 Except where rates only are required, the Tenderer shall insert all amounts to be included in his total tendered price in the “Amount” column and show the corresponding total tendered price.

1.11 The Tenderer must price each item in the schedule/bill of quantities in **BLACK INK**.

1.12 All prices and rates shall exclude value added tax (VAT). The Tenderer shall calculate value added tax and enter it at the end of the summary of the Bill of Quantities.

1.13 While the Employer has every intent to complete the full scope of works, the Employer reserves the right to reduce of increase the scope of works according to the dictates of the budget, or to terminate this contract, with adjustment to the agreed rates, sums or fees and without payment of any penalty in this regard. The Service Provider shall however be entitled to pro-rata payment for all services carried out in terms of any adjustment to the Scope of Work or, in the case of termination, remuneration and/or reimbursement.

2. PROVISIONAL SUMS

Where Provisional sums or Prime Cost sums are provided for items in the Schedule of Quantities, payment for the work done under such items will be made in accordance with Clause 6.6 of the General Conditions of Contract 2015. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted by the Employer in the "Amount" column of the Schedule of Quantities and in the Summary of the Schedule of Quantities unless so ordered or authorized in writing by the Employer before closure of tenders. Any unauthorized changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Schedule of Quantities, at the Employer's discretion, may invalidate the Tenderer's offer or may be treated as arithmetical errors and the provisional items and percentages corrected without change to the Contract Sum.

3. PRICING OF THE SCHEDULE OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Schedule of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based. .

Each item shall be priced and extended to the "Amount" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Tenderer omits to price any items in the Schedule of Quantities, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

Should the Tenderer group a number of items together and tender one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

The tendered lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Amount" column. "Rate Only" items have been included where:

(a) an alternative item or material is contemplated;
(b) variations of specified components in the make-up of a pay item may be expected; and
(c) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For "Rate Only" items, no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall, however, note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

Reasonable compensation will be received where no payment item appears in respect of work required in terms of the Contract which is not covered in any other pay item.

All rates and amounts quoted in the Schedule of Quantities shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Schedule of Quantities. Note that fractions of a cent in all rates shall be omitted.

4. CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

5. INTERIM PAYMENTS

Unless otherwise specified, progress payments in Interim Certificates, referred to in Clause 6.10 of the General Conditions of Contract 2015, in respect of "sum" items in the Schedule of Quantities shall be by means of interim progress instalments assessed by the Employer's Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

Notwithstanding any custom to the contrary, the work as executed will be measured for payment in accordance with the methods described in the contract documents under the various items of payment.

The nett measurements or mass of the finished work in place shall be taken for payment, but any quantity of work in excess of that prescribed shall be excluded.

6. UNITS OF MEASUREMENT

The units of measurement described in the Schedule of Quantities are metric units. The following abbreviations are used in the Schedule of Quantities:

mm	= millimetre	m^3-km	= cubic metre-kilometre	Prov sum	= provisional sum
m	= metre	l	= litre	kPa	= kilopascal
km	= kilometre	kl	= kilolitre	MPa	= megapascal
km-pass	= kilometre-pass	kg	= kilogram	MN	= meganewton
m^2	= square metre	t	= ton (1 000 kg)	t-km	= ton-kilometre
m^2-pass	= square metre-pass	No	= number	h	= hour
ha	= hectare	%	= percent	dia	= diameter
m^3	= cubic metre	PC sum	= prime cost sum	Sum	= lump sum
kW	= kilowatt	MN-m	= meganewton-metre		

7. CONSISTENCY OF RATES

In order to ensure that payments certified by the Employer's Agent are reasonably consistent with the market value of the work done, and that variations in quantities do not distort the contract valuation, the rates, prices and amounts tendered in the Schedule of Quantities are required to be in balance.

A tender will be considered out of balance if:

(i) the combined, extended total tendered for the item:

B13.01 The contractor's general obligations:

(a) Fixed obligations
(b) Value-related obligations
(c) Time-related obligations

exceeds a maximum of 15% of the Contract Sum (excluding contingencies, escalation and VAT).

(ii) the rate, price or amount tendered for any other item differs by more than 20 (twenty) percent from the average of the rates, prices or amounts for the same item as tendered by those tenderers who submitted the lowest five responsive tender offers (or as tendered by all the

responsive tenderers if there are less than five responsive tenderers).

Any such unbalanced tender may be rejected if, after fourteen (14) days of having been given written notice by the Employer to adjust those rates or lump sums which are unreasonable or out of balance, the Tenderer fails to make the necessary satisfactory adjustments. These adjustments in rectification will be such that increases are balanced by decreases, leaving the tender offer unchanged.

8. PAYMENT FOR LABOUR INTENSIVE COMPONENTS OF WORKS

Those parts of the works to be constructed using labor-intensive methods are to be identified and agreed with by the contractor and Engineer and shall be 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 labor-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 labor-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 unauthorized 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

9. 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 client may institute a penalty relating to outstanding labour information.

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

C2.2. SCHEDULE OF QUANTITIES

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NGWATHE LOCAL MUNICIPALITY

CONTRACT No. NLM: TEC-02/06/2026
For
EDENVILLE: CONSTRUCTION OF EDENVILLE MUNICIPAL OFFICES

TENDER SUMMARY

DESCRIPTION	AMOUNT
SECTION 1: PRELIMINARIES	R
SECTION 2: SITE CLEARANCE	R
SECTION 3: EARTHWORKS	R
SECTION 4: CONCRETE, FORMWORK AND REINFORCEMENT	R
SECTION 5: MASONRY	R
SECTION 6: WATERPROOFING	R
SECTION 7: ROOF COVERINNG	R
SECTION 8: CARPENTRY AND JOINERY	R
SECTION 9: CEILING PARTITION AND ACCESS FLOORING	R
SECTION 10: FLOOR COOVERING	R
SECTION 11: IRONMONGERY	R
SECTION 12: STEEL STRUCTURAL	R
SECTION 13: PLASTERING	R
SECTION 14: TILING	R
SECTION 15: PLUMBING AND DRAINAGE	R
SECTION 16: GLAZING	R
SECTION 17: PAINTWORK	R
SECTION 18: STORMWATER DRAINAGE	R
SECTION 19: WATER SUPPLY	R
SECTION 20: ELECTRICAL WORK	R
SECTION 21: MECHANICAL WORK	R
TOTAL CARRIED FORWARD TO TENDER SUMMARY	**R**
SUBTOTAL 1	**R**
Add: Contingencies (10% of SUBTOTAL 1)	**R**
SUBTOTAL 2	**R**
Add: VAT (15% of SUBTOTAL 3)	**R**
TOTAL CARRIED FORWARD TO FORM OF OFFER	**R**

Signed on behalf of the Tenderer .....(Signature)

Date: ……..

Tenderer's Name..... (Company Name)

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1,		**BILL NO.1 :PRELIMINARIES**				
		MEANING OF TERMS "TENDER / TENDERER"				
		Any reference to the words "Tender" or "Tenderer" herein and/or in any other documentation shall be construed to have the same meaning as the words "Bid" or "Bidder".				
		SCHEDULE 1: PRELIMINARY & GENERAL				
		SCHEDULED FIXED-CHARGE AND VALUE RELATED ITEMS				
		FIXED-CHARGE ITEMS				
		Contractual Requirements Establishment of Facilities on Site	PSum	1,00	40 000,00	40 000,00
1,1		**Facilities for the Contractor**				
1,1,1		(a) Offices and Storage Shed	PSum	1,00	-	
1,1,2		(b) Workshops	Sum	1,00		
1,1,3		(c) Laboratories	Sum	1,00		
1,1,4		(d) Ablution and Latrines Facilities	Sum	1,00		
1,2		Removal of Contractor's Site Establishment on Completion	Sum	1,00		
1,3		Occupational Health and Safety				
1,4		Compliance with Occupational Health and Safety Act (Act 85 of 1993) and its regulations	PSum	1,00	35 000,00	35 000,00
1,5		TIME-RELATED ITEMS				
1,5,1		Contractual Requirements Establishment of Facilities on Site	Month	8,00		
1,6		Facilities for the Contractor				
1,6,1		(a) Offices and Storage Shed	Month	8,00		
1,6,2		(b) Workshops	Month	8,00		
1,6,3		(c) Laboratories	Month	8,00		
1,6,4		(d) Ablution and Latrines Facilities	Month	8,00		
		Carried Forward				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		Brought Forward				
1,7		Facilities for the Engineer				
1,7,1		(a) Offices and Storage Shed	PSum	1,00	30 000,00	30 000,00
1,7,2		(b) Workshops	Sum	1,00		
1,7,3		(c) Laboratories	Sum	1,00		
1,7,4		(d) Ablution and Latrines Facilities	Sum	1,00		
1,8		Environmental Management				
1,9		Compliance with Environmental Management Plan	Sum	1,00		
1,10		TIME-RELATED ITEMS				
1,11		Facilities for the Engineer				
1,11,1		(a) Offices and Storage Shed	Month	8,00		
1,11,2		(b) Workshops	Month	8,00		
1,11,3		(c) Laboratories	Month	8,00		
1,11,4		(d) Ablution and Latrines Facilities	Month	8,00		
1,12		Supervision during Construction	Month	8,00		
1,13		Occupational Health and Safety				
1,15		Compliance with Occupational Health and Safety Act (Act 85 of 1993) and its regulations	Month	8,00		
1,16		Compliance with Environmental Management Plan	Month	8,00		
		Carried Forward				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		Brought Forward				
		SUMS STATED PROVISIONALLY BY ENGINEER				
1,17		(iii) Safety Consultant	PSum	1,00		
1,18		Provisional sum allowed for the cleaning and removal of blockages in any of the interconnecting pipework	PSum	1,00		
1,19		Provisional sum allowed for the community liased officer(CLO)	PSum	1,00		
1,20		Provisional sum allowed for the steering commuty	PSum	1,00		
1,21		Control tests by independent laboratory. Additional tests that may be required by the Engineer over and above normal quality control tests performed by the Contractor.	PSum	1,00		
1,22		Provisional sum allowed for the Environment Management Plan	PSum	1,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2		**BILL NO.2 : SITE CLEARENCE**				
2,1		Clear and grub of strips for (where not cleared within other clear and grub areas)	m2	1450		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
3,		**BILL NO.3 : EARTHWORKS**				
		Note:				
		The removal of bitumen paving has not been measured, and forms part of the relevent excavations. No payment will be made for the removal of bitumen pavings when it forms part of areas to be excavated.				
3,1		BULK EXCAVATIONS ETC.				
		Open face excavation in earth over sloping site:				
3,1,1		Open face excavation.	m³	45,00		
3,1,2		Extra over bulk excavations in earth for excavation in:				
3,1,3		Soft rock	m³	10,00		
3,1,4		Hard rock.	m³	5,00		
3,1,5		EXCAVATION OTHER THAN BULK.				
3,1,6		Excavation in earth not exceeding 2m deep:				
3,1,7		Trenches.	m³	306,67		
3,1,8		Holes.	m³	78,00		
3,1,9		Extra over excavations other than bulk in earth for excavation in:				
3,1,10		Soft rock.	m³	24,00		
3,1,11		Hard rock.	m³	10,00		
3,1,12		Risk of collapse of excavations other than bulk:				
3,1,13		Sides of trenches and hole excavations not exceeding 1,5m deep.	m²	383,00		
		CARTING AWAY.				
		Extra over all excavations for loading, carting and dumping surplus excavated material (no allowance made for increase in bulk):				
3,1,14		Off site to a dumping site to be found by the Contractor.	m³	105,00		

		EARTH FILLING, ETC.				
		Filling with material from the excavations compacted to a density of at least 95% Mod. AASHTO maximum density:				
		Backfilling to trenches, holes, etc.	m³	82,00		
		Filling with approved G7 material in accordance with SABS 1200 DM supplied and carted on to site site by the Contractor, compacted to 95% Mod AASHTO density.				
3,1,15		Under floors, pavings, etc.	m³	8,00		
3,1,16		Backfilling to trenches, holes, etc.	m³	44,00		
		Filling with over site of G5 material in accordance with SABS 1200 DM supplied and carted on to site by the Contractor, compacted to 95% Mod AASHTO density.				
3,1,17		Backfilling to trenches, holes, etc.	m³	46,00		
3,1,8		Hardcore filling:				
3,1,19		Under floors etc.	m³	16,00		
		Coarse river sand filling compacted to 95% Mod. AASHTO maximum density:				
3,1,20		Under floors, etc.	m³	3,00		
		Surface Preparation:				
3,1,21		Trim and level off surface of ground (excavated or filled under this Contract) to receive concrete surface beds, including excavating or filling, ripping and scarifying as necessary and compacting the whole area for a depth of 150mm to a density of at least 93% Mod. AASHTO maximum density, part to falls.	m²	55,00		
		KEEPING EXCAVATIONS FREE OF WATER.				
		Keeping excavations free of water:				
3,1,22		Keeping excavations free of all water other than subterranean water.	Item	1,00		
		TESTS.				
3,1,23		Prescribed density tests on filling:				
3,1,24		Modified AASHTO Density test.	No	5,00		
3,1,25		Field Density test including Optimum Moisture Content (four readings per test).	No	5,00		
		SOIL POISONING.				
		Approved brand of anti-termite soil poison applied by a Registered Pest Control company and guaranteed against termite infestation for ten years:				
3,1,26		Under floors, etc., including forming and poisoning shallow furrows against foundation walls, etc., filling in furrows and ramming.	m²	350,00		
3,1,27		To bottoms and sides of trenches, holes, etc	m²	420,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
4,		**BILL NO.4 : CONCRETE, FORMWORK AND REINFORCEMENT**				
		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES.				
4,1		15Mpa/19mm Concrete				
4,1,1		Surface blinding under footings and bases.	m³	5,00		
		20Mpa/19mm Concrete				
4,2		REINFORCED CONCRETE. 30mpa/19mm				
4,2,1		Surface beds cast in panels on waterproofing.	m³	84,50		
4,2,2		Strip footings.	m³	48,50		
4,2,3		Strong Room	m³	14,90		
4,2,4		Apron Slab	m³	15,60		
4,3		TEST BLOCKS.				
		Test blocks:				
4,3,1		Making and testing set of three 150 x 150 x 150mm concrete strength test cubes.	Sets	10,00		
4,4		ROUGH FORMWORK (DEGREE OF ACCURACY II)				
		Rough formwork to sides of columns in foundations.				
4,4,1		Square columns with total height not exceeding 3,5m high.	m²	98,00		
		Rough formwork to soffits				
4,4,2		Slabs exceeding 250mm but not exceeding 500mm thick propped up exceeding 3,5m and not exceeding 5,0m high.	m²	57,00		
		Rough Formwork to Sides and Soffits:				
4,4,3		Edges of roof slab propped up exceeding 3,5m and not exceeding 5m high.	m²	28,00		

4,5		MOVEMENT JOINTS ETC.				
		Saw cut joints:				
4,5,1		Saw cut joint in top of concrete formed of a 10mm x 60mm first cut not later than 1 day after casting concrete and 6mm x 20mm second cut at top of joint made 21 days after casting.	m	34,00		
		Expansion joints with bitumen impregnated softboard between vertical concrete surfaces:				
4,5,2		10mm Joints not exceeding 300mm high.	m	15,00		
		Sondor Jointex' closed cell expanded polyethylene between vertical concrete surfaces:				
4,5,3		10mm Joints not exceeding 300mm high.	m	21,00		
		Sondor Jointex' closed cell expanded polyethylene between vertical concrete and brick surfaces:				
4,5,4		10mm Joints not exceeding 330mm high.	m	23,00		
		Vertical joggle construction joints through concrete including applying bond breaker to mating face and finishing joint with a nosing tool:				
4,5,5		Surface beds not exceeding 300mmm thick.	m	67,00		
4,6		REINFORCEMENT				
		High tensile steel reinforcement to structural concrete work:				
4,6,1		12mm Diameter bars.	Tonnes	3,25		
4,6,2		10mm Diameter bars.	Tonnes	1,50		
4,6,3		Type 245 fabric reinforcement in concrete surface beds, etc.	m²	560,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
5,		**BILL NO.5 : MASONRY**				
		TRADE PREAMBLES				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
5,1,		BRICKWORK IN FOUNDATIONS				
		Brickwork of NFX bricks (14 MPa nominal compressive strength) in Class II mortar:				
5,1,1		230mm brick walls in foundation.	m²	360,00		
5,2		BRICKWORK IN SUPERSTRUCTURE				
		Brickwork of NFP bricks in class II mortar:				
5,2,1		115mm brick walls	m²	165,00		
5,2,2		230mm brick Walls	m²	1200,00		
5,2,3		Extras Over for Face Bricks	m²	175,00		
5,3		BRICKWORK SUNDRIES.				
		Sundries:				
		Brickwork reinforcement:				
5,3,1		75mm Wide reinforcement built in horizontally.	m	1 214		
5,3,2,		75mm Wide reinforcement built in horizontally in foundations.	m	654,00		
5,3,3		150mm Wide reinforcement built in horizontally.	m	251,00		
		Prestressed fabricated lintels:				
5,3,4		110 x 75mm Lintels in lengths not exceeding 3m.	m	150,00		
5,4		NUTEC-CEMENT/FIBRE-CEMENT WINDOW SILLS				
		Natural grey sills in single lengths bedded in class I mortar including metal fixing lugs, etc:				
5,4,1		15 x 150mm Wide sills set flat and slightly projecting.	m	4,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
6,		**BILL NO.6 : WATERPROOFING**				
6,1		DAMPPROOFING OF WALLS AND FLOORS.				
		One layer of 375 micron Consol Plastics Brikgrip DPC embossed damp proof course:				
6,1,1		In walls.	m²	343,00		
		One layer of 250 micron Consol Plastics Brikgrip DPC embossed damp proof course:				
6,1,2		Under surface beds.	m²	960,00		
		Two coats 'ABE Brixeal' bitumen emulsion waterproof coating:				
6,1,3		On bagged brick walls	m²	195,00		
6,2		WATERPROOFING TO ROOFS, BASEMENTS, ETC.				
		One layer Derbigum SP4 waterproofing membrane, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by 'torch-fusion'. Waterproofing to be installed by an Approved Derbigum Contractor under a ten year guarantee:				
6,2,1		On floor slab	m²	560,00		
6,3		PROTECTIVE ROOFING PAINT				
		Two coats 'Roofcote' bituminous aluminium paint:				
6,3,1		On waterproofing to roofs.	m²	357,00		
6,4		JOINT SEALANTS, ETC.				
		Approved two-part polyurethane sealing compound including backing cord, bond breaker, primer, etc:				
6,4,1		10 x 60mm In saw cut joints in floors	m	23,00		
6,4,2		10 x 20mm In isolation joints in floors including raking out expansion joint filler as necessary.	m	12,00		
6,4,3		10 x 10mm In expansion joints in walls including raking out expansion joint filler as necessary.	m	352,00		
6,4,4		In joints between ceramic sanitary ware and ceramic tiles.	m	4,00		
6,4,5		In joints between stainless steel sanitary ware and ceramic tiles.	m	4,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
7		**BILL NO.7 : ROOF COVERINGS**				
		Guarantee:				
		The manufacturer shall comply with ISO9002 Quality Management System. Sheeting shall be laid in strict accordance with the manufacturer's specifications by an approved contractor.				
7,1		ROOF COVERING				
		0,6mm"IBR" Z275 spelter galvanised troughed sheet steel with "Globalcoat" finish on one side in single lengths fixed to timber purlins and 0,6mm galvanised sheet steel accessories				
7,1,1		Roof covering with pitch not exceeding 25 degrees fixed to purlins.	m²	760,00		
7,1,2		Sidewall Flashing 308mm girth	m	210,00		
7,1,3		Cover Flashing 154mm girth	m²	210,00		
7,2		ROOF AND WALL LINING AND INSULATION.				
		Double-sided 'Sisalation®' FR405 light industrial aluminium foil sheeting fixed in strict accordance with the manufacturers instructions:				
7,2,1		Insulation sheeting laid taut over purlins (at approximately 1500mm centres) and fixed concurrent with roof covering with minimum 150mm stapled laps including galvanised steel straining wires at not exceeding 400mm centres and doublesided tape at edges where required.	m²	760,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
8		**BILL NO.8 : CARPENTRY AND JOINERY**				
8,1		ROOF TRUSSES				
8,1,1		Design,Manufacture and Deliver to Site,Plate nailed Roof trusses Construction, size 40 000,00mm x 20 000,00mm overall with 800mm eave overhang Provecting Both Sides including All necessary Purlins,Runners,Bracings and Cross Bracings	Item	1,00		
8,1,2		12 x 225mm Fascias and barge boards including galvanised steel H-Profile jointins strips	m	480,00		
8,2		PURPOSE MADE SOLID HARDWOOD DOORS				
		Solid hardwood doors:				
8,2,1		44mm Door size 813 x 2032mm high fitted with hardwood edging and paintable 'Masonite' faces both sides, horizontally routered grooves 10mm wide.	No	21,00		
8,2,3		40mm Door size 1600 x 2032mm high double door fitted with hardwood edging and paintable 'Masonite' faces both sides, horizontally routered grooves 10mm wide.	No	4,00		
8,3		**METALWORK**				
		WELDED SCREENS, GATES, ETC				
		Steel gates and frames				
8,3,1		Single gate and frame 900 x 2 100mm high overall, the outer frame of 45 x 45 x 3mm hollow section bolted to wall with and including eight 70mm M80 expansion bolts and the gate size leaf 900 x 2 100mm high t	No	25		
8,4		PRESSED STEEL DOOR FRAMES				
		1,2mm Double rebated Zinc coated (Galvanised) standard steel door frames suitable for one brick walls with Padlatch				
8,4,1		Frame for door 813 x 2 032mm high	No	21		
8,4,2		Frame for door 1 600 x 2 100mm high	No	4		
8,5		STEEL WINDOWS, DOORS, ETC				
		Standard residential windows with type "B2" burglar bars to opening sashes				
8,5,1		Window type W1, 900mm x 654mm high	No	18		
8,5,2		Window type W2, 1 200mm x 654mm high	No	2		
8,5,3		Window type W3, 600mm x 654mm high	No	7		
8,6		FITTINGS				
		Kitchen Joinery:				
8,6,1		Wall cupboard type size 5000 x 450 x 1180mm high with top, sides, bottom, division, shelf, back and six hinged doors, shadow line, ironmongery.	No	1,00		
8,6,2		Floor cupboard type size 5000 x 600 x 900mm high with top, sides, bottom, back, four drawers and six hinged doors and dividing framework, stainless steel kickplate, ironmongery.	No	1,00		
8,6,3		Kitchen timber slatted timber screen to match other kitchens, it is made of 28 pieces of evenly spaced 38X114mm SA Pine,	No	3,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
9		**BILL NO.9 : CEILINGS PARTITIONS AND ACCESS FLOORING**				
9,1		CEILING TIMBERS, BEADS, INSULATION, ETC.				
		6,4mm Gypsum plasterboard with taped joints and the whole finished with gypsum plaster trowelled to a smooth polished surface to the thickness recommended by the manufacturer.				
9,1,1		Ceilings including 38 x 38mm sawn softwood brandering at 400mm centres and cross brandering at 1200mm centres	m²	560,00		
9,1,2		Extra over ceiling for opening for size 1200 x 600mm light fitting	No	4,00		
9,1,3		Extra over ceiling for size 600 x 600mm opening for ventilation grille/air conditioning diffuser	No	4,00		
9,1,4		Extra over ceiling for size 900 x 900mm trap door of 38 x 38mm wrought softwood rebated framing with one cross brander, covered with ceiling board and fitted flush in opening, including necessary trimmers around	No	2,00		
		Gypsum plasterboard cornices:				
9,1,5		75mm Coved cornices, plugged	m	560,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
10,		**BILL NO.10 : FLOOR COVERINGS**				
		TRADE PREAMBLES				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
		SUPPLEMENTARY PREAMBLES				
		Proprietary items or materials:				
		Proprietary items or materials where specified are to be of the brand specified - or other equal approved - by the Principal Agent.				
10,1		NEEDLE PUNCH CARPET SHEETING AND TILES:				
		Nexus Diagonals« 500 x 500 x 8mm thick stainproof miracle fibreÖ (Polypropylene) structured needlepunch Nexbac EcoÖ SABS Class 3 fire rating grade general / medium commercial carpet tiles, colour Squirrel , all installed as per manufacturer's specifications				
10,1,1		On floors and landings.	m²	580,00		
		VINYL FLOOR COVERINGS, WALL LININGS, ETC				
		Supply and fix 2.0mm thick x 2.0m wide Primo SD non-directional static dissipative vinyl sheeting, manufactured in accordance with EN 649 and laid in pattern over an earthed grid of aluminium tape in FloorworX No.27 acrylic conductive adhesive spread using a trowel fitted with an A2 notched blade at a rate of between 5.5m2 and 6.5m2 per litre on a previously prepared Class 1 sub-floor in accordance with SANS 10070, using a reliable self-leveller when required, including all cutting and waste. The sheeting must be rolled in both directions with an articulated 68kg three-sectional roller immediately after it has been laid into the adhesive. Joins must be butted, grooved and heat welded using the manufacturer's welding rod, ensuring that the welding rod bonds to more than 70% of the sheet thickness. After completing the installation the floor must be electrically tested for resistivity in accordance w ith the requirements of SANS 6160.				
10,1,2		On floors.	m²	42,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
11,		**BILL NO.11 : IRONMONGERY**				
11,1		HINGES, FLOOR SPRING HINGES, BOLTS, PANIC BOLTS, ETC.				
		Dormakaba:				
11,1,1		Dormakaba DBB-SS009' 102 x 75 x 3mm stainless steel hinge.	No	25,00		
11,1,2		A 1040 100mm Aluminium Sinkless Hinge, Centre Pin With Standard Alignment Grooving For Easy Fitment.	Pairs	36,00		
		Dormakaba DFB-SC-180' 153mm satin chrome manual flush bolt with heel.	No	4,00		
11,1,3		Dormakaba DFB-SC-180' 153mm satin chrome manual flush bolt with heel with keep let into concrete.	No	4,00		
11,1,4		Galvanised Barrel Bolt, 150mm Long Fitted To Bottom Of Inactive Doorleaf.	No	3,00		
11,2		CATCHES, CABIN HOOKS, ETC.				
		Halstead:				
11,2,1		Halstead 166' 200mm Stain Chrome on brass cabin hook and eye including 100 x 100 x 75mm chamfered hardwood block twice oiled and plugged.	No	23,00		
		Halstead' 200mm satin chromed cabin hook and eye, including 100 x 100 x 75mm chamfered meranti block twice oiled and plugged.	No	3,00		
11,3		LOCKS.				
		Dormakaba:				
11,3,1		Dormakaba D037D SS' stainless steel cylinder deadlock, case dimensions 116.5 x 78mm, forend dimesions 168 x 22mm, backset 57mm.	No	6,00		
11,3,4		Dormakaba D038RNP' Rebate conversion kit for euro-profile locks D036S, D037D.	No	2,00		
11,3,5		Dormakaba D036S SS' stainless steel cylinder sash lock, case dimensions 116.5 x 78mm, forend dimesions 168 x 22mm, backset 57mm, centres 61mm.	No	51,00		
11,3,6		Dormaka DHK004201' Satin nickel 43mm half knob cylinder.	No	23,00		
11,3,7		Dormaka DCE-002 SS' Stainless Steel round cylinder escutcheon.	Pairs	22,00		
11,3,8		Dormakaba DSC104301MK' Satin nickel 43mm five pin Euro-profile knob cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder.	No	3,00		
11,3,9		Dormakaba DKC106601' 66mm five pin Euro-profile knob cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder.	No	13,00		
11,3,10		Dormakaba EMC 1200 ALH' sinlge electromagnetic lock with 1200 ibf (5338N) holding force, surface-mounted, with lock status sensor and red/ gree LED indicator (19860504).	No	4,00		
11,3,11		Dormakaba DDC106601MK' Satin nickel 66mm five pin Euro-profile knob cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder.	No	28,00		
11,3,12		Dormakaba DDC106600MK' Brass 66mm five pin Euro-profile double cylinder master keyed, cylinders stamped accordingly with corresponding door numbers, three keys with tags required per cylinder.	No	1,00		
11,3,13		Basket' iseo ISEO 35mm Backset Hooklock.	No	7,00		
11,3,14		Dormakaba 'PHA3 L DD' Three point locking panic bar - double door - door leaf 1000mm wide x 3400mm high (2101.2104.2104.2201.PHX02.PHX05).	No	4,00		

11,4		HANDLES				
		Equally approved od Dormakaba:				
11,4,1		Dormakaba TH120 BP Cyl SS' Stainless steel lever handle on rose with cylinder escutcheons.	Sets	23,00		
11,4,2		Dormakaba TH120 Cyl SS' Stainless steel lever handle on rose with cylinder escutcheons.	Sets	2,00		
11,4,3		Dormakaba TH120 Latch SS' Stainless steel lever handle on rose with latch.	Sets	25,00		
11,4,4		Dormakaba DCE-105 SS' stainless steel narrow stile cylinder escutcheons	Pairs	7,00		
11,5		DOOR CLOSERS				
		Dormakaba:				
11,5,1		Dormakaba TS91B' Non hold open cam action side action door closer, closing force EN3, hydrualic speed control, pull side door leaf fixing (standard), push side transom fixing. Door closer compliant with EN 1154. Door closer is CERTI FIRE approved (Certificate No. CF 119) for door types ITT 120	No	30,00		
11,6		PUSH PLATES AND KICK PLATES				
		Dormakaba:				
		Dormakaba DKP-430-200 screw fixed' 813 x 920 x 1,2mm thick Grade 430 stainless steel kick plate with 10No countersunk holes for screw fixing with and including stainless steel screws.	No	25,00		
		LETTERS, NAMEPLATES, ETC.				
		Dormaka:				
11,6,1		Dormakaba DSS-130M/ 131F' 150 x 150mm MALE/ FEMALE sign.	No	25,00		
11,6,2		Dormakaba DSS-133P' 150 x 150mm DISABLED PERSON sign.	No	4,00		
11,6,3		Dormakaba DSS-152 C' 150 x 150mm CLEANER sign.	No	2,00		
11,6,4		Dormakaba DSS-135 TC' 150 x 150mm TEA CUP sign.	No	4,00		
11,7		BLINDS, PELMETS AND CURTAIN TRACKS				
		BLINDS.				

11,7,1		1500 X 3000mm Roller blinds to meet the existing including rails, adjustable cable, screws, top hung to ceiling.	No	45,00		
11,8		BATHROOM FITTINGS.				
		Franke:				
11,8,1		Franke Stratos STRX 672' satin stainless steel double toilet roll holder, with cylinder lock, plugged to wall with stainless steel screws.	No	4,00		
11,8,2		Franke sensor operated hand dryer HF2400HD, plugged to wall with stainless steel screws.	No	4,00		
11,8,3		Franke Stratos STRX 618' Stainless steel soap dispenser plugged to wall with stainless steel screws.	No	2,00		
11,8,4		600mm Long 'Franke' stainless steel towel rail bolted. (code 359933)	No	2,00		
		Kimberly-Clark®:				
11,8,5		Washing Bassins wall mounted waste bin, plugged to wall with stainless steel screws.	No	7,00		
11,8,9		Franke' CNTXBR 750 x 260mm stainless steel disabled grab rail. (code 359912)	No	4,00		
11,8,10		Franke' CNTX700A Stainless steel angle disabled grab rail. (code 359877)	No	4,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
12		**BILL NO.12 : STRUCTURAL STEELWORK**				
12,1		SHOP DRAWINGS				
		The Sub-Contractor shall prepare his own shop details. Immediately on receipt of the Engineer's drawings, the Sub-Contractor shall satisfy himself that the design drawings contain all the information required for the preparation of the shop details.				
12,1,1		Preparation and approval of shop drawings	Item	1,00		
12,2		HOT DIPPED GALVANISED STEEL COLUMNS AND BEAMS				
		Welded columns in single lengths with flat section base, top, bearer, stiffner and connection plates bolted to steel and concrete:				
12,2,1		100 x 100 x 6mm Square hollow section columns.	Tonnes	0,20		
12,2,2		100 x 100 x 6mm Square hollow section beams.	Tonnes	0,85		
12,3		Bolts to columns, beams, etc:				
12,3,1		Grade 4.8 bolts	Tonnes	0,25		
12,3,2		High tensile Grade 8.8 bolts	Tonnes	0,25		
12,3,4		M20 holding down bolt 606mm long with 70 x 70 x 12mm plate welded 10mm up on one end with two nus and washers.	No	48,00		
12,3,5		M20 Anchor bolts.	No	16,00		
12,3,6		M16 150mm long chemical anchor.	No	8,00		
12,4		Bolts to trusses, purlins, beams, etc:				
12,4,1		Grade 4.8 bolts.	Tonnes	0,30		
12,4,2		High tensile Grade 8.8 bolts.	Tonnes	0,30		
12,5		HOT DIPPED GALVANISED STEEL PURLINS, GIRTS, BRACING, ETC.				
		Purlins and girts bolted to steel:				
12,5,1		150 x 75 x 6mm Lipped channel section purlins.	Tonnes	0,50		
12,5,2		200 x 75 x 6mm Lipped channel section purlins.	Tonnes	0,40		
12,6		Welded bracing etc with flat section connection plates bolted to steel:				
12,6,1		Angle section bracing.	Tonnes	0,20		
12,6,2		IBR 0,6mm roof Covering	m²	108,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
13,		**BILL NO.13 : PLASTERING**				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
13,1		SCREEDS:				
		Screeds on concrete:				
13,1,1		30mm Thick on floors and landings.	m²	280,00		
13,1,2		Average 75mm thick on floors to falls and currents.	m²	63,00		
13,1,3		Average 75mm thick on roofs with upper surface to falls and currents.	m²	57,00		
13,2		INTERNAL PLASTER				
		Cement plaster steel trowelled, on brickwork				
13,2,1		On narrow widths not exceeding 300mm wide	m²	320,00		
13,2,2		Cement plaster steel trowelled, on concrete				
13,2,3		On narrow widths not exceeding 300mm wide	m²	33,00		
13,4		GRANOLITHIC				
		Untinted granolithic, on concrete:				
13,4,1		25mm Thick on floors and landings.	m²	49,00		
13,5		INTERNAL PLASTER				
		Cement plaster on brickwork:				
13,5,1		On walls.	m²	1360,00		
13,5,2		On narrow widths.	m²	61,00		
		Cement plaster on concrete:				
13,5,3		On walls	m²	32,00		
13,5,4		On columns	m²	2,00		
13,6		EXTERNAL PLASTER.				
		Cement plaster on brickwork:				
13,6,1		On walls.	m²	1385,00		
13,6,2		On walls in foundations	m²	127,00		
13,6,3		On narrow widths.	m²	10,00		
13,6,4		On sloping top, front edge and projecting soffit of sills 357mm girth	m	4,00		
13,7		CORNER PROTECTORS, DIVIDING STRIPS, ETC				
		Corner protectors, dividing strips, etc:				
13,7,1		3 x 57mm Flat section brass water bar.	m	2,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
14,		**BILL NO.14 : TILING**				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
14,1		NOSINGS, JOINT COVERS, PROTECTORS, ETC.				
		Wall edge protectors:				
14,1,1		Type ETR 608 PVC regular tiling trim 21mm wide x 6mm high with type 01 finish.	m	220,00		
		M Trim' Stainless Steel straight edge trim:				
14,1,2		M Trim' Stainless Steel straight edge trim 12mm high (code SSE120) to suit tiling 8 to 9mm thick, fixed with adhesive to treads and risers.	m	115,00		
14,2		CERAMIC WALL TILING				
		Allow the prime cost of R450.00 (Four Hundred and Fifty Rand) net per square metre for ceramic tiles supplied and delivered to site and add for taking delivery, storage, fixed with adhesive and flush pointed with tinted jointing compound mortar, waste and profit. (plaster elsewhere measured)				
14,2,1		On walls.	m²	110,00		
14,2,2		On narrow widths.	m²	24,00		
14,2,3		Fair exposed cutting and fitting around pipe etc not exceeding 100mm internal diameter.	No	21,00		
14,3		PORCELAIN FLOOR TILING				
		Allow the prime cost of R500.00 (Five Hundred Rand) net per square metre for porcelain tiles supplied and delivered to site and add for taking delivery, storage, fixed with adhesive and flush pointed with tinted jointing compound mortar, waste and profit. (plaster elsewhere measured)				
14,3,1		On floors and landings.	m²	560,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
15,		**BILL NO.15 : PLUMBING AND DRAINAGE**				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
15,1		**SECTION NO.6: SEPTIC TANK**				
		EXCAVATION, FILLING, ETC				
15,1,1		excavation in:				
15,1,2		Soft Excavation	m3	19		
15,1,3		Hard rock	m3	10		
15,1,4		Risk of collapse of excavations				
15,1,5		Sides of trench and hole excavations not exceeding 1,5m deep m2	m2	18		
15,2		SOIL POISONING				
		Soil insectiside				
15,2,1		To bottoms and sides of trenches	m2	18		
15,3		CONCRETE				
		UNREINFORCED CONCRETE				
		15MPa/19mm concrete				
15,3,1		Surface blinding under footings and bases	m3	1		
		REINFORCED CONCRETE				
		25MPa/19mm concrete				
15,3,2		Floor Slab	m3	4		
15,3,3		Surface beds on waterproofing	m3	18		
15,3,4		Suspended Slab	m3	4		

15,4		TEST BLOCKS				
15,4,1		Making and testing 150 x 150 x 150mm concrete strength test cube	No	5		
15,4,2		Finishing top surfaces of concrete smooth with a wood float	m2	18		
15,4,3		Finishing top surfaces of concrete smooth with a steel trowel including rounding edges to form a bullnose finish	m2	18		
15,5		ROUGH FORMWORK (DEGREE OF ACCURACY II)				
		Smooth formwork to				
15,5,1		Vanity slabs, cupboard slabs, cover slabs, etc. propped up not exceeding 150mm high	m2	18		
15,6		REINFORCEMENT				
		Fabric reinforcement				
15,6,1		Type 193 fabric reinforcement in concrete surface beds, slabs,etc.	m2	18		
15,6,2		Reinf. Diam 12mm	t	0,5		
15,7		BRICKWORK				
		Brickwork of NFX bricks (14 MPa nominal compressive strength) in class I mortar				
15,7,1		One brick walls	m2	54		
15,8		Brickwork reinforcement				
15,8,1		150mm Wide reinforcement built in horizontally	m	140		
15,8,2		Construction of brick manhole including heavy duty cover (1m x1m x1m) including cover	No	4		
15,8,3		Construction of access shaft (60mmx600mm) icluding cover	No	2		
15,9		PIPES AND SEWERS				
15,9,1		Supply and install standard uPvc pipe 110mm	m	50		
15,10		FITTINGS IN u PVC TO u PVC PIPES				
		Bends				
		Double socketed				
15,10,1		110 mm dia.	No	8		
15,10,2		Plain Tee Socketed Branch				
15,10,3		110/110 mm dia.	No	8		
		Wye Socketed Branch				
		110/110 mm dia				
		End Caps				
15,10,4		150mm dia. Inspection cap on top end of Tee on inlet/outlet	No	4		

15,11		**FRENCH DRAIN**				
		EXCAVATION, FILLING, ETC				
		Excavation in:				
15,11,1		Soft Excavation	m3	15		
15,11,2		Hard rock	m3	5		
15,11,3		Back filling with granuar clean stone of 20 to 75 mm	m3	9		
15,11,4		Back filling with excavated soil	m3	6		
15,12		PIPES AND SEWERS				
15,12,1		Supply and laid 200mm perforated sewer pipe	m	15		
15,12,2		Supply and install geotextile(bidim)	m2	18		
15,13		**SANITARY PLUMBING.**				
15,13,1		uPVC pipes:				
15,13,2		40mm Pipes.	m	51,00		
15,13,3		50mm Pipes.	m	52,00		
15,13,4		110mm Pipes.	m	68,00		
15,13,5		110mm Bend.	No	4,00		
15,13,6		40mm bend.	No	4,00		
15,13,7		50mm bend.	No	4,00		
15,13,8		40mm Junction.	No	4,00		
15,13,9		110mm Junction.	No	4,00		
15,13,10		40mm junction.	No	4,00		
15,13,11		50mm junction.	No	4,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
16,		**BILL NO.16 : GLAZING**				
		TRADE PREAMBLES				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
16,1		TOPS, SHELVES, DOORS, MIRRORS, ETC.				
		7mm obscure glass				
16,1,1		Panes exceeding 0,1 and not exceeding 0,5m2	m2	45		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
17,		**BILL NO.17 : PAINTWORK**				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
17,1		ON FLOATED PLASTER.				
		Prepare surfaces and remove all loose material, apply one coat 'Dulux Trade Moisture Tolerant Plaster Primer' and two coats 'Dulux Wallguard' paint:				
17,1,1		On exterior walls.	m²	720,00		
17,1,2		On exterior walls in foundations.	m²	106,00		
		One coat professional gypsum and plaster primer and two coats Plascon (or equally approved) Professional Superior low sheen (Code: Y4-E2-3) with evasive white colour or equal approved for interior use				
17,1,3		On interior walls.	m²	626,00		
17,1,4		On interior feature walls	m²	31,00		
17,1,5		On ceilings.	m²	560,00		
17,2		ON METAL				
		Clean down with galvanised iron cleaner and apply one coat galvanised iron primer, one universal under coat and two coats of "Plascon" or equally approved super enamel paint:				
17,2,1		On doors.	m²	259,00		
17,2,2		On door frames.	m²	81,00		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
18,		**BILL NO.18 : STORMWATER DRAINAGE, KERBING , PAVING AND MANHOLES**				
		Trade Preambles:				
18,1		ROADS, PAVING, ETC				
		MASS EARTHWORKS				
		Cut and stock pile to be Reuse:				
18,1,1		(a). Material up to the depth of 300mm	m^3	375		
18,2		PLATFORMS				
		Fill from Borrowpit				
18,2,1		(a). Material in compacted layer thickness of 200mm and less	m^3	375		
18,3		PAVINGS				
18,3,1		Prefabricated concrete interlocking paving blocks ,80mm	m^2	480		
18,3,2		Fig. 7 Kerb and Edge beam: 300 mm x 200 mm cast in situ class 25/19 concrete	m	185		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
19,		**BILL NO.19 : WATER SUPPLY**				
		TRADE PREAMBLES				
		Trade Preambles:				
		For Trade Preambles refer to 'Model Preambles for Trades' (2008 edition) for the full descriptions of material to be used and work to be done in this Bill.				
19,1		WATER SUPPLIES IN GROUND.				
		Excavation, etc. for water supplies:				
19,1,1		Carefully excavate by hand in small sections, to expose existing services, including backfilling to 90% Mod AASTHO density on completion.	m³	10,00		
19,1,2		Excavation in earth not exceeding 2m deep for pipe trenches.	m³	5,00		
19,1,3		Extra over excavation in earth for pipe trenches, chambers, etc for excavation in soft rock.	m³	0,50		
19,1,4		Extra over excavation in earth for pipe trenches, chambers, etc for excavation in hard rock.	m³	1,00		
19,1,5		Extra over excavation for pipe trenches, chambers, etc for carting away surplus material to a dumping site to be located by the Contractor.	m³	1,00		
19,1,6		Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density.	m³	4,00		
19,1,7		Backfilling to pipe trenches, chambers, etc with G7 material supplied by the contractor compacted to 90% Mod AASHTO density and stabalised with 3 percent cement.	m³	3,00		
19,1,8		32mm "301CP" Basin waste union	No	8		
19,1,9		32 x 50mm Deep seal "P" or "S" trap	No	15		
19,2		TAPS, VALVES, ETC				
		Brass				
19,2,1		15mm 111CP Pillartap	No	14		
19,2,2		FJ6.000 "Flushmaster Junior" urinal flush valve	No	2		

19,3		SANITARY PLUMBING				
		uPVC pipes				
19,3,1		50mm Pipes	m	95		
19,3,2		110mm Pipes	m	90		
		Extra over uPVC pipes for fittings				
19,3,4		110mm Reducer	No	10		
19,3,5		50mm Bend	No	8		
19,3,6		110mm Pan connector	No	8		
19,3,7		50mm Access bend	No	8		
19,3,8		110mm Access bend	No	6		
19,3,9		50mm Access junction	No	8		
19,3,10		Sundries Testing waste pipe system	Item	1		
19,4		WATER SUPPLIES				
19,4,1		Class 0 copper pipes 15mm Pipes	m	20		
19,4,2		15mm Pipes chased into brick walls	m	14		
19,4,3		22mm Pipes	m	14		
19,4,4		22mm Pipes chased into brick walls	m	16		
19,4,5		Extra over class 0 copper pipes for capillary fittings 15mm Fittings	No	20		
19,4,6		22mm Fittings	No	20		
19,4,7		Copper overflow and service pipes 15mm Service pipe 500mm girth	No	10		
19,5		FIRE APPLIANCES ETC				
19,5,1		Chubb 4,5kg Carbon dioxide fire extinguisher	No	4		
19,6		TESTING				
19,6,1		Testing water pipe system	Item	1		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
20,		**BILL NO.20 : ELECTRICAL WORK**				
20,1		**ELECTRICAL WORKS**				
20,1,1		Supply and install double surface	No	10		
20,1,2		Supply and Install Distribution Board 10 ways	No	2		
20,1,3		Supply and Install Surface Box 4x4	No	9		
20,1,4		Supply and Install Single Switch	No	3		
20,1,5		Supply and Install Double Switch	No	3		
20,1,6		Supply and Install Fluorescent	No	9		
20,1,7		Supply and Install Pole light	No	6		
20,1,8		Supply and Install day night swicth	No	2		
20,1,9		Supply and install armourede cable 3+E 1.5mm	m	65		
20,1,10		Supply and Install 1.5mm flat twin cable	m	110		
20,1,11		Supply and Install 2.5mm flat twin cable	m	100		
20,1,12		Supply and Install PVC conduits 20mm	No	20		
20,1,13		Supply and Install PVC Clamps	No	100		
20,1,14		Supply and Install Fisher plugs 6x60mm	No	6		
20,1,15		Supply and Install Adaptators 20mm	No	110		
20,1,16		Supply and Install coupling	No	110		
20,1,17		Supply and Install armoured cable 3+ E 4mm2	m	1000		
		Carried to Summary				

Item	Payment Reference	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
21,		**BILL NO.21 : MECHANICAL WORK**				
		TENDERERS ARE TO ATTACHED: MECHANICAL INSTALLATION BILL OF QUANTITIES FOR THE DETAILED DESCRIPTION OF THE WORKS				
		Mechanical Installation:				
		The contractor must employ Specialist Sub-Contractors who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal or higher than the value of the Sub-Contract work. CV's will be required to be presented during the adjudication process to verify the above.				
		The contractors rates are to include for any profit and attendance on the Specialist Sub-Contractor the Contractor deems necessary.				
21,1		TOTAL TRANSFERRED FROM MECHANICAL INSTALLATION BILL OF QUANTITIES: TENDERER TO ENTER PRICE RECEIVED FROM HIS DOMESTIC MECHANICAL SUB- CONTRACTOR EXCLUDING VAT, INCLUDING ANY BUILDERS PROFIT AND ATTENDANCE DEEMED NECESSARY	Item	1,00	50 000,00	50 000,00
		Carried to Summary				

C3: SCOPE OF WORK

DEFINITIONS
ABBREVIATIONS
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- PS4.6 Site establishment, facilities available and required
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- PS5.2 Planning and Programming
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- PS5.10 Recording of Weather and Abnormal Rainfall
- PS5.11 Format of communications
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- PS5.14 Forms for contract administration
- PS5.15 Daily records
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PS6.2 Operation of valves
PS6.3 Work outside normal working hours
PS6.4 Sanitary facilities
PS6.5 Community liaison and community relations
PS6.6 Notices and warning to consumers
PS6.7 Continuity of service supply to customers
PS6.8 Conditions and procedures for service agencies
PS6.9 Generic labour intensive specifications
PS6.10 Causes for rejection

PS7 HEALTH AND SAFETY FOR CONSTRUCTION WORK
PS8 ENVIRONMENTAL MANAGEMENT PLAN
PORTION 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS

SANS 1200A: CIVIL ENGINEERING CONSTRUCTION: PRELIMINARY AND GENERAL
SANS 1200AB: CIVIL ENGINEERING CONSTRUCTION: ENGINEER'S OFFICE
SANS 1200C: CIVIL ENGINEERING CONSTRUCTION: SITE CLEARANCE
SANS 1200DA: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (Small Works)
SANS 1200LD: CIVIL ENGINEERING CONSTRUCTION: SEWERS
SANS 10400: NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS

GENERAL

This section specifies and describes the supplies, services and engineering and construction work which are to be provided and any other requirements and constraints relating to the way 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 cover 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 specifications, the requirements of the Project Specifications shall prevail.

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) ***'Castellation'*** **shall mean alternating** white and black boxes at the perimeter of a test chart. Useful to test TV picture positioning on the display screen, also to observe picture cropping, display registration, etc.

c) ***'Fittings'*** **shall mean all meters, valves, hydrants, saddles, tees and reducers**

d) ***'Launch pit'*** shall mean the excavation or manhole from which the replacement pipe is inserted.

e) ***'Pipe bursting or cracking'*** shall mean the bursting of an existing pipe with a device which displaces the existing pipe fragments into the surrounding medium and leads in a replacement pipe immediately behind.

f) '***Pipe length'*** shall mean the existing or proposed length of pipe between manholes or perpendicular streets.

g) ***'Property connection'*** shall mean a pipe which connects a property drain to a collector sewer or manhole or the meter to the secondary supply mains. In addition to straight pipes, it includes a junction on the collector sewer or saddle on the secondary supply mains.

h) ***'Property connection junction'*** shall mean the point of connection of the property connection with the collector sewer or water main.

i) ***'Reception pit***' shall mean the excavation or manhole where the replacement pipe finishes.

j) '***Service Provide***r' shall mean either a consultant or contractor appointed to provide a particular service, i.e. investigations, design, labour provision and/or construction.

k) '***VAT***' shall mean Value Added Tax in terms of the Value Added Tax Act 89 of 1991 as amended.

Abbreviations

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

ASTM	: American Society for Testing and Materials
avi	: Audio Video Interleaved Format
BEE	: Black Economic Empowerment
BS	: British Standard
CCD	: Charge-coupled Device
USB	: Universal Serial Bus Storage Drive
CE	: Civil Engineering Works
CIDB	: Construction Industry Development Board
CIPP	: Cure-In-Place-Pipe
NLM	: Ngwathe Local Municipality
COP	: Code of Practice for Work within the Road Reserve
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
GB	: Gigabytes
JBCC	: Joint Building Contract Committee
GIS	: Geographic Information System
HD	: High Definition
Kl	: Kilolitres
l	: Litres
LOS	: Level of Service
Ml	: Megalitres
Mod AASHTO	: Modified American Association of State Highway and Transportation

Officials

mov	: Quick Time Movie File Format
MPEG	: movie photographic experts group
mpg	: MPEG Video Format
MSCC	: Manual for Sewer Condition Classification, Fourth Edition (2004)
SABS	: South African Bureau of Standards
SANS	: South African National Standard
SD	: Standard Definition
SOP	: Standard Operating Procedure
WRC	: Water Research Commission
uPVC	: Unplasticised Polyvinyl Chloride
VAT	: Value Added Tax

PORTION 1: PROJECT SPECIFICATION

PS1 DESCRIPTION OF THE WORKS

PS1.1 Employer's Objectives

The Employer's objective is to construct a Municipal satellite office in Edenville. This is to improve civic accessibility and streamlines for public service delivery. By decentralizing Municipality operations, reduce travel times, alleviate congestion at central headquarters, lower long-term operational costs, and foster closer engagement with local and underserved communities.

PS1.2 Overview of the Works

The project consists of the following:
The scope of work covers the following:

- Construction of Municipal Building including offices, boardroom, kitchen, strong room etc....
- Water and Sanitations infrastructures
- Stormwater Infrastructure
- Parkings

PS1.3 Extension of the Works

The above works also include the following:

- Clearance;
- Earthworks;
- Foundations;
- Masonry;
- Roof and Trusses;
- Ceilings;
- Plumbing;
- Electrical and Mechanical;
- Painting;
- Stormwater;
- Plumbing;
- Sewer including septic tank.

PS1.4 Location of the Works

The Works are located in Edenville Employer's operational area, thus within the Ngwathe Local Municipality.

NOTA BENE: Refer to the locality drawing included in Volume 3 of this Contract Document.

PS1.5 Temporary Works

Temporary work shall:

a) include the works required to locate, verify and protect existing services within the works area;
b) be such to ensure no or limited interruption to vehicle and pedestrian traffic; and
c) be such as to allow the continued or uninterrupted sewage flow. The Contractor, under the supervision of an experienced manager (from the Contractor personnel), may install plugs in the sewers to prevent the flow of sewage during inspection for a period of no longer than 10 minutes. The plugs must then be removed for a minimum of 10 minutes after which time they may be installed again for the period stated above. Plugs shall only be installed when and for the time period directed by the Engineer where the existing flow hinders proper inspection.
d) be such that existing stormwater flow shall not be impeded during survey and construction activities.

PS2 ENGINEERING

PS2.1 Engineer's Design

The Contractor undertakes only construction based on full designs issued by the Employer. The Contractor is to follow the specification, the design and construction drawings as laid out by the Engineer.

PS2.2 Drawings

PS2.2.1 Volume 3

Drawings are included in the section C5 of this Contract Document based on current available information. Such drawings may be updated (based on actual site situation uncovered during execution of the works) and re-issued during the Contract Period as required.

Drawings include:

a) Architectures Building Drawings
b) Civil and Structural Drawings
c) Typical construction details.

PS2.2.2 Construction drawings

Upon receiving the instructions to commence with construction the Contractor shall receive 3 sets of construction drawings, of which 1 set shall be designated for as-built records and updated by the Contractor daily. The letter shall be:

a) made available to the Engineer or his duly authorised representative within 24hours on request;
b) submitted to the Engineer with the Contractor's request for issue of the Practical Completion Certificate.

PS2.2.3 Record drawings

The set of drawings issued as per clause PS2.2.2 (Construction drawings) for recording survey findings showing manhole numbers that coincide with the survey report coding sheets and video recording, shall be returned to the Engineer on completion of the Contract. The drawings shall be clearly annotated to show any discrepancies between the Employer's record drawings and the contents of the survey report. Such discrepancies shall be brought to the attention of the Engineer during the survey.

PS3 PROCUREMENT

PS3.1 Preferential Procurement Procedures

The Contractor's attention is drawn to the following returnable schedules contained in Part T2:

a) Empowerment and Preferential Procurement; and
b) Enterprise Declaration Affidavit (to be endorsed by a commissioner of oaths).

These schedules contain all requirements with regard to preferential procurement.

PS3.2 Sub-contracting

The Contractor is:

a) to enter into contract with any nominated sub-contractor(s) in accordance with the requirements of Clause 6 of the General Conditions of Contract. The sub-contractor(s)' nomination will be determined by the scope of work and the amount of work that is to be carried out.
b) required to utilise local sub-contractors for the completion of unskilled labour-based sections of the works, where practical.
a) responsible for all work executed on his behalf or under his supervision and/or management by all sub-contractors, including nominated sub-contractors.

The Engineer shall, prior to the commencement date of the contract, determine the scope of work and the amount of work that is to be carried out by the nominated subcontractor(s). If applicable, the Contractor shall be expected to enter into a contract with the nominated subcontractor(s) in accordance with the requirements of Clause 6 of the General Conditions of Contract.

***NOTA BENE**: The Engineer 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.*

PS4 CONSTRUCTION

PS4.1 Applicable Standards

PS4.1.1 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)
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)
674	: 2008
920	: Steel bars for concrete reinforcement (2005)
1024	: Welded steel fabric for reinforcement of concrete (2006)
1083	: Aggregates from natural sources - Aggregates for concrete (2006)
1090	: Aggregates from natural sources - Fine aggregates for plaster and mortar (2002)
1200 A	: General (1986)
1200 AB	: Engineer's office (1986)
1200 C	: Site clearance (1980)
1200 D	: Earthworks (1988)
1200 DA	: Earthworks (Small works) (1988)
1200 DB	: Earthworks (Pipe trenches) (1989)
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 LD	: Sewers (1982)
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)
1882	: Polymer concrete surface boxes, manhole and inspection covers, gully gratings and frames (2003)
50197-1/ EN 197-1	: Cement - Part 1: Composition, specifications and conformity criteria for common cement
5831	: Presence of chlorides in aggregates
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 - Compressive strength of hardened concrete (2006)
5865	: Concrete tests - The drilling, preparation, and testing for compressive strength of cores taken from hardened concrete (1994)
0268-1	: Welding of thermoplastics – Welding Processes

10400 : National Building Regulations and Building Standards

These Specifications are not issued with this volume but are available at the Contractor's expense from Standards South Africa:

Physical Address	Postal Address	Telephone No.	Fax No.	Email Address
1 Dr Lategan Road, Groenkloof PRETORIA	Private Bag X191 PRETORIA 0001	012 428-7911	012 344 1568	sales@sabs.co.za

The "Contract Data" to be read with the "The Joint Building Contracts Committee® - Principal Building Agreement Edition 6.2 – May 2018". The following are submitted in amplification of these conditions or as alterations thereto.
For "Workmen's Compensation Act" read "Compensation for Occupational Injuries and Diseases Act, 1993 (Act No.130 of 1993)" wherever it appears. For "Machinery and Occupational Safety Act" and "Mines and Works Act" read "Occupational Health and Safety Act, 1993 (Act 85 of 1993)" wherever they appear. For "maintenance period" read "Defects Liability Period in terms of Clause 53(1) of the General Conditions of Contract, 2004" wherever it appears

PS4.1.2 Other Standards
Other Standard Specifications applicable to this Contract shall be:

a) ASTM C.309 Type 1 (Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete)
b) WRC MSCC

PS4.2 Particular generic specifications
PS4.2.1 Minimum health and safety requirements
This section of the specifications is to be read in conjunction with the Contract Health and Safety specifications, included as Volume 2. 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:

PS4.2.1.1 Road safety equipment
The internal conduit survey unit shall be provided with:
a) an amber-flashing beacon, which shall comply with and be operated in accordance with any governing road vehicle lighting regulations or similar.

b) appropriate sized and quantity of road signs, including delineators and cones which shall be displayed at the works area in accordance with safety regulations or similar.

c) bright coloured overalls, fluorescent over-jackets and belts for each team member for use at all working times during the day or night.

PS4.2.1.2 Personal safety equipment
The internal conduit inspection unit shall be provided with:
a) oxygen deficiency and gas detector apparatus, which shall be regularly serviced and operable.

b) fresh air breathing apparatus, face mask and demand value, with a sufficient minimum compressed air supply, determined by the duration of manhole and/or conduit entry.

c) an approved full vertical lift safety harness.

d) personal equipment per member:
   i) safety helmet;
   ii) safety boots;
   iii) sewer wading boots; and
   iv) disposable protective gloves.

e) First Aid Kit suitable to cater for the number of team members.

f) facilities for washing, including:
   i) soft soap;
   ii) disinfectant; and
   iii) clean water.

g) radio equipment and cellular phone for on-site and emergency communication.

h) fire extinguisher.

PS4.2.2 Traffic control

a) A traffic control plan shall include 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.
b) 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.
c) A written method of handling traffic for each different phase of the project shall be submitted and include both vehicular and pedestrian traffic.
d) The name and number of the Contractor representative responsible for traffic control shall be made available to solve traffic problems at each job site location.

PS4.2.3 Metric measurement

All survey recorded dimensions of infrastructure shall be in metric units, including for conduits, chambers and manholes.

PS4.2.4 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 the Contractor for a period of 12 months 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.

PS4.2.5 Pipe handling and storage

Pipe shall be handled and stored in accordance with safe lifting practice. The lifting capacity of the equipment shall not be exceeded.

Where slings are used for lifting

a) 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.

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. Styrene butadiene rubber rings shall also be stored away from sources of ozone such as fluorescent lights and electric motors.

PS4.2.6 Inspection of pipes and fittings

Pipeline rehabilitation 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.
c) concrete pipes shall be checked for cracks or any other damages flaws before making each joint

Damaged or flawed pipes and fittings can 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.

PS4.2.7 Cutting of pipes

Pipes shall at all times be cut square to the barrel of the pipe. For:

a) rubber ring and solvent cement jointed pipe, the deviation from square shall not be in excess of 5mm.
b) butt or electro-fusion jointed PE pipes the deviation from square shall not be in excess of 1mm.

Jagged edges shall be removed from pipe ends. Cut edges of rubber ring or solvent cemented plastic pipes shall be bevelled in accordance with the manufacturer's instructions.

PS4.2.8 Acceptability of damaged pipe

Cuts or gouges that reduce the pipe wall thickness in excess of 10% is not acceptable and shall be cut out and discarded.

PS4.2.9 Pipe joining

PS4.2.9.1 Fusion butt-welding

a) Interpretation

This section shall cover the butt-welding plastic pipes, which shall involve the heating of two pipe ends to fusion temperature and then subsequently joining the two ends by the application of force.

b) Equipment

The basic parts of the equipment shall be:

i) Planning Tool: used to face pipe ends.
ii) Heating Plate: used to melt pipe ends
iii) Frame: holds on to the pipes to be joined. It has hydraulic cylinders which apply pressure to the pipe joints.
iv) Hydraulic unit: has the hydraulic pump, tank, pressure gauges, directional valves, pressure regulation valves.
v) Data logger: records pertinent process data such as time, pressure and temperature. The data logger ensures that every joint is made properly.

c) Site preparation

The technician shall ensure that the machine is situated in a dry area, before welding is commenced. The equipment shall not be exposed to rain.

No welding shall be executed during rain, unless an outdoor roofing structure is provided to protect the equipment and process from rain. The technician shall ensure that the equipment

does not sit on wet ground.

d) Pipe preparation
Pipe ends to be joined shall be dry and free from foreign particles.

PS4.2.9.2 Restrained joint couplings

a) Pipe may be joined using nonmetallic restrained type couplings. Pipe and couplings shall be designed as an integral system and shall be provided by a single manufacturer for maximum reliability and interchangeability. No external pipe-to-pipe restraining devices that clamp onto or otherwise damage the pipe surface as a result of point-loading shall be permitted.

b) Couplings shall be designed as minimum for use at the rated pressures of the pipe with which they are utilized.

PS4.2.9.3 Electrofusion belt jointing

a) The appearance of electrofusion belt shall meet the following requirements:
(i) The surface of the electrofusion belt shall be smooth and free from cavity, impurity or other
defects that may have adverse effect on its function.
(ii) The heating wire shall be well embedded into the polyethylene and shall be free from breakage and short circuit.
(iii) Electrofusion belt side shall be cut properly
(iv) The electrofusion belt shall be normally black, other color is allowed when agreed upon by the Client and supplier.

b) The dimension and tolerance on dimension of the electrofusion belt shall comply with Table below

ID	Minimum Length L(mm)	Width W (mm)	Tolerance on width (mm)	Thickness (mm)	Tolerance on thickness (mm)	Width of heating wire mesh W1 (mm)	Tolerance on width of heating wire mesh (mm)
800	2712	300	+/-10	7	+/-2	100	+/-8
900	3026	300	+/-10	7	+/-2	100	+/-8
1000	3340	300	+/-10	7	+/-2	100	+/-8

c) Pipe jointing procedure (Electrofusion belt)

1. Place two pipes butt to butt and align them to make the axes of the two pipes as close as possible.
2. Put the electrofusion belt into the pipes at the jointing position and use electrofusion belt holder to push the electrofusion belt onto the inner wall of the pipes. The overlapping edge and the heating wire terminals shall be positioned at pipe top. The belt shall be equally shared by the two pipes in terms of length.
3. Fill in the space at the overlapping part of the belt with profile modeling PE wedge.
4. Use the electrofusion belt holder to push the electrofusion belt against the pipe wall and make Spacing between electrofusion belt and the pipe as little as possible. All pressing shoes of the belt holder shall press and the belt uniformly and soundly.
5. Connect the welding control box to the heating element terminal of the electrofusion belt and apply current according to pipe manufacture's technical manual. The specification for current value and the voltage applying time shall be strictly followed. During welding, the current is

allowed to decrease continuously and steadily; abrupt decrease or increase of electrical current is not allowed. The surface temperature of the welding zone of the belt shall be uniform along circumference. Careful inspection shall be conducted on the joint when abnormal phenomenon takes place, and then proper measures shall be taken accordingly.
6. After welding, cool the joint down in the air for not less than 40 minutes. During cooling process the Electrofusion belt holder shall not be taken away and the joint shall not be subject to any external action. After cooling process is finished, disconnect the welding control box and move the specialty machine away.

Hand or reciprocating saw may be used to cut the pipe off at site. The exposed steel shall be sealed off with hand held extruder or EVA welding lance after pipe cutting.

PS4.2.10 Launch and reception pits

The required launch and receipt pits for horizontal drilling shall be excavated and maintained to minimum dimensions. Said excavations shall be adequately barricaded, shored, braced and dewatered, as required, in accordance with the applicable portions of these specifications, including:

a) Excavation adjacent to the road pavement shall be performed in a manner to adequately support these facilities.
b) Pipe entry and receiving areas to provide a gradual entry of the pipe without stress to the pipe or joints and to allow free movement into the hole at an acceptable depth.
a) Where possible, with regard to size and structural integrity, associated structures are to be utilised for pits for horizontal drilling equipment. Alternatively, pits are to be located where possible at property connections OR branch connections OR identified localised repairs positions.
b) Where approved by the Engineer, channeling and walls of existing associated structures may be altered by the Contractor to insert and receive pipes during operations. Where a continuous length of pipe is to be towed in, such as pipe lengths welded together or a coiled pipe, the launch pit shall be of a size to permit insertion of the continuous pipe length without bending to a smaller radius of curvature than permissible by the manufacturer.
c) Where a continuous pipe length is to be used, the top of the pipe length to be inserted shall be protected from damage at the entry. The Engineer shall approve the method of protection.
d) Pits shall be reinstated and cleared of all plant, material and debris prior to moving to other sites.

PS4.2.11 No surface disturbance

Pipes installed by means of bursting or horizontal drilling shall be in a manner that does not cause upheaval, settlement, cracking, movement or distortion of surface features.
Contractor to maintain close observation to detect any settlement or displacement of surface and/or adjacent facilities: In the event of settlement or displacement the Contractor is to notify the Engineer immediately, whilst maintaining safe conditions and prevent any further damage from occurring.

PS4.2.12 Damage to services or structures

The Contractor shall satisfy the Engineer that horizontal drilling operations shall not have a detrimental effect on adjacent services or structures.
Where the Engineer determines that services adjacent to the existing pipe shall be damaged by horizontal drilling, such services shall be exposed and protected.
Services or structures identified by the Engineer, as being damaged by horizontal drilling operations shall be repaired at the Contractor's expense.

PS4.2.13 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 operation, in particular during horizontal directional drilling. Such system(s) shall ensure that soil particle removal is kept at a minimum.

PS4.2.14 Post inspection of trenchless technology implemented and associated works

The Contractor shall inspect the pipes installed by trenchless methods within 7 days after fully completing works, including new installations, backdrops, and property and lateral connections. Any and all damages to the Works, irrespective of the cause, where such survey is executed outside the aforementioned time span shall be repaired at the expense of the Contractor.

The survey shall capture the full extent of the rehabilitative Works, ensuring that:

a) the full length of new installation works is captured;
b) a measurement of the installed pipe circumference is taken every 10m and at intermittent locations where the installed pipe is deformed;
c) all localized repair sites are captured;
d) all associated structure connections are captured;
e) all launch and receipt pit sites are captured; and
f) any and all defective work is captured, i.e. pipe deformations, pipe tears, non-connected property and branch connections, non-connected backdrops.

PS4.2.15 Testing of trenchless technology implemented and associated works

The Contractor shall be required to test the replacement pipe at various staged tests:

a) ***First test***: a tensile strength test shall be performed on minimum 10% of all site performed joints, where the pipe shall be exposed to pulling and shearing forces during installation. Similarly, a compression resistant test shall be performed on minimum 1 or 10% (whichever is greater) of all site performed joints, where the pipe shall be exposed to pushing and shearing forces during installation.

b) ***Second test***: a low-pressure air test, shall be performed before the pipe is sealed in place at the manholes and chambers, and before any property or branch reconnections have been made performed. The purpose of this test shall be to check the integrity of joints that have been made, and to verify that the replacement pipe has not been damaged during installation.

c) ***Third test***: a smoke test, shall be performed for the non-pressured pipes and property connections, performed after all property connections have been completed for a particular manhole length.

Additional acceptance testing following the applicable test procedures shall be performed by the Contractor, if required.

Any detects or poor workmanship shall be corrected at the Contractor's expense.

PS4.2.16 Acceptance of trenchless technology implemented and associated works

The Employer or Engineer or their duly authorized representatives shall only accept trenchless technology implemented and associated works if the complete installed pipe length section has been surveyed after installation, and the results indicate no defaults, including but not limited to:

a) All excess internal and external excess weld beads have been removed, for pipes.
b) No compromised pipe gradient in gravity mains.
c) No reduction circularity of pipe, in excess of 5mm.
d) All pipe associated structure connections have been properly completed, including all benching restatement and annulus grouting.
e) No groundwater infiltration.
f) No leakage of conveyed fluids.
g) All property or branch connections or backdrops have been properly reinstated and are completely unobstructed.

Additionally, all test results as required for the applicable technology application shall be submitted to, and approved by, the Engineer prior to the acceptance of the works.

PS4.2.17 Site restoration

Following all Works completion, the Contractor 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.

PS4.2.18 Assess and record pipe infrastructure

Evaluating the condition of sewer infrastructure is important in order to facilitate educated decisions on scheduling required rehabilitation or the next survey. Thus, surveyed infrastructure is to be compared to their observed structural and functional integrity, from the best condition just after installation, to the worst condition just before rehabilitation work is required. Assessment and recording shall include, but not be limited to:

a) size, material type, and depth of each infrastructure, referenced from the top of the manhole frame to the invert of the sewer conduit;
b) structural condition of walls;
c) condition of conduit joints, and lateral connections;
d) explanations for water level fluctuations;
e) any blockage or obstructions located within the infrastructure;
f) infiltration; and
g) photographic prints shall be taken of sewer infrastructure, highlighting all significant structural and/or operational deficiencies.

PS4.2.19 Conduit cleaning

PS4.2.19.1 Objective of cleaning

The objective of cleaning the sewers shall be to expose the fabric of the conduit by removing the silt, grease and debris so that it can function properly.

a) During cleaning of pipelines, the flow of sewage shall be maintained by over-pumping.

b) on completion of the cleaning, the Contractor shall ensure that all his equipment, debris, silt and grease are removed from the conduit and that each conduit is cleaned and free of any foreign obstruction to ensure free flowing of the sewage.

PS4.2.19.2 Working site

a) The workspace required to successfully clean conduits shall be kept at a minimum. Thus, plant and equipment not used is to be removed from the work site to minimize disruption to traffic and the general public.

b) The working area is to be free of debris when the Contractor leaves the site at the end of each shift.

c) Open manholes, machinery and standing equipment are to be protected to ensure the safety and convenience of traffic, the general public or other at all times.

PS4.2.19.3 Cleaning units

The Contractor shall provide:

a) sufficiently suitable cleaning units, of adequate capacity, in good condition, including standby unit(s) in the event of breakdown, in order to complete the works within the allocated shift and ultimately within the Contract Period.

b) cleaning units capable of operating up to 200m from the point of access to the conduit.

c) only units that comply with the safety requirements as detailed in his approved health and safety plan.

d) only cleaning equipment that has been approved by the Engineer or his duly authorised representative.

PS4.2.19.4 Operational requirements

The Contractor shall provide cleaning units that:

a) carry a sufficient number of guides and rollers, such that when cleaning, all bends are supported away from conduits and manhole structures.

b) shall be operated in such a manner to prevent sewer overflows. Where flows in the conduit are such that the overflow shall occur during the cleaning operations, the Contractor shall make arrangements to prevent the premature overflow or stop operations until such flows are reduced to allow cleaning to continue.

c) have a system of silt, grease and debris removal, capable of operating in such a manner as to minimise the obstruction to pipeline flow and the cleaning operations.

PS4.2.19.5 Arising

The Contractor shall:

a) remove all silt, grease, debris, detritus, litter deposits, bricks, rocks, etc (herein referred to as arisings) that is lodged in the lengths of the conduit required to be surveyed or repaired or as otherwise directed by the Engineer or his duly authorised representative. Such material shall be caught and collected in a trap located at the manhole from where the conduit is being cleaned.

b) deposit all arising in a suitable closed container, of a type and capacity as he deems necessary to comply with the health and safety requirements and the Contract Period.

c) programme the works in such a manner that the cleaning operations are not delayed through a lack of an empty container in which arising are to be deposited.

d) bear in mind that it may not always be possible for the container to be sited immediately adjacent to the manhole from which arising are being removed and should allow for the fact that ‘double handling’ of arising may be necessary. Double handling shall be executed in a safe and efficient manner.

e) make his own arrangements for the disposal of arisings, but shall dispose of such arising in a manner that is safe and efficient in the opinion of the Engineer or his duly authorised representative.

f) if pre-installation inspection reveals an obstruction such as a protruding service connection, dropped joint, or a collapse that may prevent the installation process and it cannot be removed by conventional pipe cleaning equipment, then the Contractor shall make a localized “point” repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Engineer's representative prior to the commencement of the work.

PS4.2.19.6 Winching equipment

The Contractor shall:

a) provide conventional power winching equipment, approved by the Engineer or his duly authorised representative, with ancillary equipment, winching buckets, breakers, scrapers, tools and safety apparatus for cleaning conduits.

b) undertake dredging of conduits by passing various sized buckets through the pipeline to physically remove accumulated arising. The maximum size of the winch bucket used shall be a diameter of 90% that of the conduit up to a maximum of 600mm. However, the Contractor shall:
   i) note that as a result of the sizes of the manhole covers and access restrictions that the afore-mentioned maximum bucket size may not always be practical.
   ii) ensure his working procedure shall not be unduly affected by such restrictions.

c) incorporate torque limiting device in winches to prevent the breaking of winching lines in the event of the line becoming jammed by obstructions in the conduit.

d) ensure that all winches are stable with either lockable or ratcheted drums, where operational equipment is towed by winch and bound through the conduit. All:
   i) bonds shall be steel or an equally non-elastic material to ensure smooth and steady progress of the equipment.
   ii) winches shall inherently be stable under loaded conditions.

e) provide power boring equipment and/or winching equipment including cables, lines, props and tools where conditions dictate.

f) provide equipment capable of operating efficiently in the conduit sizes stated and manhole lengths pipelines up to distances of 200m between adjacent manholes.

g) be prepared at all times to use push rods, mechanical boring equipment or other methods to pass a leading line through the conduit prior to commencing dredging operations with the winching equipment, should flows be full or in surcharged condition.

h) work in such a manner that excessive quantities of arisings are not allowed to pass downstream from any section of the manhole length being cleaned, necessitating the cleaning of such section. Should this occur, as a result of negligence on the part of the Contractor, the cost to clean the additional section of pipeline or re-cleaning of an already cleaned section shall be at the expense of the Contractor.

i) generally, ensure that dredging operations in a particular section of sewer proceed in a downstream direction.

j) ensure that any item of plant or equipment associated with the work which may cause obstruction to the flow in the drain is removed from the pipeline at the end of operations or at meal breaks each day. However, the Contractor shall be allowed to leave a line or winching cable through the pipeline during temporary breaks in the operations.

PS4.2.19.7 Pressure jetting equipment

a) The Contractor shall ensure that the equipment used is sufficient for the purpose of attaining the degree of cleanliness required to facilitate a successful or sewer operations. The Contractor shall take due care to avoid structural damage to the conduit during cleaning operations. Thus, he shall adhere to the following minimum criteria:
   i) work from downstream manhole, unless otherwise authorised by the Engineer or his duly authorised representative.
   ii) do not exceed maximum holding/stationary time of 60 seconds of nozzle.
   iii) adhere to the following minimum flow rates for applicable pipeline diameters:

Minimum flow rate (l/s)	Maximum recommended conduit diameter (mm)
0.4	225
1.5	450
3.0	900

4.5	1000

iv) adhere to the following pump pressure that shall be applied to conduits with the following properties:

Structural Condition*	**Conduit material**	**Maximum pump pressure (bar)**
1,2	Pitch fibre, brick masonry	100
1,2	Plastic (PE, PP and PVC)	180
1,2	Asbestos cement, clay, concrete	340
3	Pitch fiber, brick masonry	100
3	Plastic CPE, PP, PVC, asbestos cement, clay concrete	130
4,5	All	80

Note *: Structural grading is in accordance with the Sewer Rehabilitation Manual, WRC (2004)

b) The jetting unit shall be capable of jetting a minimum distance of 100m either upstream or downstream from a manhole, with a nominal hose size of 25mm diameter.

c) Successive passes using the pressure jetting technique shall be used with the silt removed at manholes until such time that the conduit is clean.

d) Pass rates for the jetting head shall be at a consistent speed avoiding jerking and excessive variations. Typical pass rates being 100mm to 200mm/second. The hose reel shall be power driven in the rewind directions.

e) The Engineer or his duly authorised representative shall approve the jetting equipment proposed to be used by the Contractor, which shall be categorised from:

Category	**Machine type**	**Capacity (liters/minute) Min - Max**	**Pressure* (Bar) Min - Max**
1	High pressure/ low volume trailers	41 – 155	210 – 700
2	High pressure/ low volume – mini	41 – 155	210 – 700
3	High pressure / high low volume – non HGV/HGV jetter/ combination	38 – 160	210 – 350
4	Low pressure / high volume – HGV	113 – 213	103 – 138
5	Low pressure/ high volume – combination	110 – 380	120 – 210
6	Low pressure / high volume – super combination	340 – 770	138 – 180
7	Low pressure/ high volume – separate jumbo jetter/ suction units	340 – 700	137 – 170

Note *: Maximum operating pressure for nozzles other than pencil type jets shall not exceed 340bar

NOTA BENE*: The Employer typically uses jetting equipment with 120 bar pressure and 300 litres/minute*

f) Jetting units fitted with an airflow suction unit for removal of accumulations from the conduit, shall be capable of removing materials such as sludge, silt and bricks from depths up to 10m with a minimum suction of 70m^3/minute. A tank with minimum capacity of 5m^3 shall be provided by the Contractor and be capable of decanting collected fluids back to the conduit. The suction hose of such system shall have a minimum internal diameter of 150mm.

g) Jetting equipment shall be calibrated prior to works on site by an approved body or a party such as the supplier, and the Contractor shall provide calibration certificates made available for inspection by the Engineer or his duly authorised representative.

h) Equipment, in particular the nozzles and pressure relief valves, shall also be maintained on a regular basis in accordance with the manufacturer's specifications. The Contractor shall make available to the Engineer or his duly authorised representative on a monthly basis, copies of his maintenance certificates and/or schedules.

i) An automatic pressure relief valve shall be incorporated on the pump discharge chamber to prevent the pressure exceeding the safe maximum for the whole system. This may take the form of:
    i) a pressure relief valve or bursting disc in holder; or
    ii) an automatic pressure regulating valve (unloading valve).

PS4.2.20 Water infiltration measurement

Where water infiltration is identified during the internal conduit survey process the Contractor shall measure infiltration, while the block or bypass is still in place, by:
a) isolating the sewer section using an appropriate sized weir.
b) stabilizing the rate of flow through the weir for 10 minutes before taking measurement.

The Contractor shall formally report the measurements to Engineer or his duly authorized representative upon inspection completion.

PS4.2.21 Manhole repair and/or rehabilitation

PS4.2.21.1 Invert protection

The manhole invert shall be covered during repair and/or rehabilitation operations to prevent loose materials from collecting in the invert and flowing in the water and sewer conduit.

PS4.2.21.2 Surface preparation

Prior to any work inside of a manhole, all interior walls and invert and benching surfaces shall be cleaned, using a minimum 600Bar water blast to remove all foreign matter and loose material. If all deposits have not been removed, a 10% solution of hydrochloric (muriatic) acid shall be applied by spraying from above the manhole. Manholes treated with acid solutions shall be thoroughly flushed and allowed to dry. The mixing, application, and removal of the acid solution shall be in strict accordance with the manufacturers' specifications and recommendations. *All safety procedures and protective devices applicable to the handling of the acid shall be strictly adhered to*.

PS4.2.21.3 Steps

Manhole step repair shall include, as directed by the Engineer or his duly authorised representative:

- re-securing existing steps, where such is loose and still in a proper condition; and
- replacing missing or damaged steps.

The Contractor shall remove the existing steps where required, drill the necessary holes and perform all other work to install and anchor the repaired and/or replacement steps. Where applicable, the metal portion of any replaced steps shall be removed completely.

PS4.2.21.4 Manhole bottom repair and/or rehabilitation

The flow channel shall be checked for leaks, cracks, spalls or other discrepancies by plugging the upstream side and visually inspecting the channel. If additional benching or

invert repairs are identified and deemed necessary, repairs shall be made so as to make the surface smooth and provide smooth flow through the manhole.

Bottom repair and/or rehabilitation shall include the replacement of the channel, with only earthenware or a similar approved quality product, and patching of the invert and benching areas in the manholes using a single component, ready to use with water, quick set, high strength polymer modified cementitious patching mortar for horizontal and vertical repair of concrete and masonry under water. Minimum physical properties of such component shall include:

Compressive Strength	1 day	>19 MPa
	7 day	> 31 MPa
	28 day	> 40 MPa
Flexural Strength	1 day	> 4 MPa
	7 day	> 5 MPa
	28 day	> 6 MPa
Slant Shear Bond Strength	7 day	> 8 MPa
	28 day	> 11 MPa

Note: No epoxy used.

The invert shall have a minimum depth through the manhole equal to ½ the diameter of the water and sewer conduit, with the bench sloping upward toward the manhole walls at 10%. All loose and deteriorated material shall be removed from the work site and properly disposed of by the Contractor.

PS4.2.21.5 Stopping active manhole wall leaks

Manhole wall repair shall include the sealing of all leaks (visible or non-visible to the eye) in the manhole. Wherever heavy liquid infiltration is present due to high ground water and which cannot be reasonably stopped, 15mm diameter holes shall be drilled at adequate intervals around the base of the manhole wall to relieve outside pressure. All pressure leaks shall be sealed with a rapid setting material that bonds both mechanically and chemically to saturated surfaces. This compound shall:

a) be capable of setting in approximately 45 to 90 seconds;
b) be a fast setting plug to stop flowing water in masonry and concrete;
c) be a single component, expanding, polymer modified hydraulic cement based formulation;
d) plug and stop water under pressure, or slow seeping water through openings in masonry or concrete; and
e) maintain a positive volume and become a permanent part of the surface in which it is embedded.

Minimum physical properties of such component shall include:

Compressive Strength	Obtains 50% of strength in just over 24 hours Final compressive strength > 34.5 MPa
Tensile Strength	Final tensile strength > 2 MPa
Length Change	0%

Once the walls have been rehabilitated, the drilled holes shall be plugged with a cementitious compound, a mixture of a liquid admixture and cement capable of producing an extremely rapid setting plastic material capable of stopping pressure leaks in concrete and masonry structures.

PS4.2.21.6 Surface stabilisation of concrete manholes (where necessary)

Once all infiltration of water has been stopped on a concrete manhole and there is evidence of deteriorating concrete, a clear, odourless, inorganic liquid polymer shall be applied to the entire manhole surface for impregnating and hardening the surface. The polymer shall be applied to a clean, dry, sound surface and in accordance with manufacturer's directions.

PS4.2.21.7 Patching masonry walls

Patching of manhole walls shall be required in areas where large voids exist including missing bricks, cracks, spalls in manhole walls, around steps, frames, conduits and mortar joints. All cracked or disintegrated material shall be removed from the area to be patched exposing a clean, sound substrate. Under no circumstances shall water plug type materials be used for general patching. Patching shall be with a single component, ready to use with water, quick set, high strength polymer modified cementitious patching mortar for horizontal and vertical repair of concrete and masonry under water. Minimum physical properties of such component shall include:

Compressive Strength	1 day	>19 MPa
	7 day	> 31 MPa
	28 day	> 40 MPa
Flexural Strength	1 day	> 4 MPa
	7 day	> 5 MPa
	28 day	> 6 MPa
Slant Shear Bond Strength	7 day	> 8 MPa
	28 day	> 11 MPa

Note: No epoxy used.

PS4.2.21.8 Manhole waterproofing

Where so required the Contractor shall waterproof the complete sewer manhole either through a brush or spray application.
The waterproofing product/agent shall:

a) be a repair mortar for applications requiring additional tensile strength or where shrinkage crack control is warranted;
b) be inorganic;
c) have nylon fibers;
d) produce the highest quality mortar for spray or manual application in appropriate thick sections; and
e) be designed for negative side and positive side waterproofing applications.

The waterproofing system shall be applied from the invert to manhole frame to a dampened substrate.

PS4.2.21.9 Manhole frame and cover repair or replacement

Leakage is common with manhole frames and covers, in particular with super-imposed stormwater drainage conduit, including water entering through the holes in the cover, through the space between the cover and the frame, and subsurface water entering under the manhole frame.

All existing manholes shall be assessed for water tightness at the frame and cover. Where required the frame and cover shall be sealed by either:

a) replacing such with new watertight frame and cover, including:
   i) removal and disposal of the existing frame and cover;
   ii) adjustment bricks, blocks and mortar; and
   iii) inserting and leveling new frame and cover per the standard detail drawings.
b) sealing existing covers through the use of rubber cover gaskets and rubber vent and pick holes plugs; or
c) installing watertight inserts under the existing manhole covers, where the selection of watertight inserts (plastic, fibreglass, stainless steel) must consider installation condition's (non-traffic or heavy traffic) effect on the required strength and durability of the insert.

PS4.2.21.10 Partial reconstruction of manholes

Reconstructing of manhole shall consist of the work necessary to:

a) bring the manhole frame and cover to grade, where concrete sections or layers of brickwork must be removed for lowering or added for raising/lifting;
b) reconstruct a portion of the manhole as specified with no change in line or grade; and
c) tap one or more additional pipes into an existing manhole.

PS4.2.21.11 Structure connections

All conduits to structure connections shall be watertight, in particular for sewer systems. Thus:

a) conduit barrel at the spring line shall not extend more than 25mm beyond the inside face of structure.
b) to maintain flexibility in the connection, a 25mm space shall be left between the end of the conduit inside the manhole and the concrete channel; this space shall be filled with waterproof flexible joint filler, as specified in sub-clause PS4.2.27.5 (*Stopping active manhole wall leaks*)
c) the connection, to ensure a proper bond between the replacement pipe and the structure, sealing shall be extended for a minimum of 200mm into the structure wall in such a manner as to form a smooth, watertight joint.

PS4.2.22 Manhole appurtenances

PS4.2.22.1 Frames and covers

Manhole frames and covers shall conform to the applicable standard SANS 558 requirements, however such covers and frames shall:

a) be black iron castings for sewer;
b) 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;
c) have a cover and seat that shall have machined bearing surfaces to prevent rocking and rattling;
d) have the Employer's brand (logo only) cast on;
e) be solid; and
f) have a concealed pick hole for all water and sewer manholes.

PS4.2.22.2 Manhole step irons

Manhole step irons shall conform to the applicable standard SANS requirements, but shall be:

a) spaced at 300mm centres;
b) distanced not exceed 600mm between the top of casting and the first step; and
c) plastic or similar approved.

PS4.2.23 Manhole bedding

a) Precast Manholes

Precast manhole bases shall be bedded on granular material or acceptable undisturbed foundation material.

b) Cast-in-place manholes

Concrete bases shall be poured on granular material or acceptable undisturbed foundation material.

PS4.2.24 Watertight testing

Water and sewer manholes shall be watertight structures, including any repair or rehabilitation portions. On completion of all manhole repairs and/or rehabilitations and proper elapsed curing time for the waterproofing materials, the manholes shall be visually inspected. The inspection shall be performed at the discretion of the Engineer or his duly authorised representative during the warranty period following a rainfall sufficient to increase the flow in super-imposed stormwater drainage and raise the ground water table above the problem areas. All leakage problems determined by this inspection shall be corrected by the Contractor within an agreed upon time, to the satisfaction of the Engineer or his duly authorised representative, at no additional cost.

PS4.2.24.1 Preparation of host pipe

a) Where property connections are protruding into the host pipe, and in the opinion of the Engineer may result in damage to the liner or obstruct free flow in the pipe post liner installation, the Contractor shall correct such protrusion(s) by means of methods specified (*Localized pipe replacement or repair*) before the liner is installed.
b) Flow from property connections shall be temporarily backed up as specified in clause PS4.2.19 (*Pipe length isolation*) during installation and curing processes. Where property connection flows cannot be temporarily backed up (due to excessive flows), provisions shall be made for bypassing the property connections via over-pumping or other methods as specified by the Engineer.
c) Prior to installation of the liner a protective bottom guard shall be inserted in the host pipe in order to facilitate easy installation of the liner whilst also providing protection of the liner from any damages during the installation.

PS4.2.24.2 Reconnection of property and branch connections and backdrops

a) Property connections shall not to be out of service for more than 8 hours, unless otherwise agreed in writing with the property owner or occupier. If this is not possible, temporary connections are to be made at convenient locations as approved by the Engineer.

b) **ALTERNATIVELY**, where the above (item (c)) is not possible, connection and backdrop re-instatement shall be in terms of PS4.2.31 (*Localized pipe replacement and repair*), and all replaced fitting shall be SABS approved and installed in accordance with the manufacturer's instructions, for:
   i) PVC pipes and fittings, using either solvent-cement joints or push-on joints or threaded joints or clamps or flanged joints.
   ii) HDPE pipe and fittings, using fusion jointing techniques, clamps or flange joints (either installing flange ended fittings, HDPE flange adapters and mechanical couplings)

   All polyethylene electro-fusion fittings shall be made in accordance with an appropriate and approved specification. If applicable, the grade of polyethylene of the fitting shall be the same as the replacement pipe

c) In the event that a property and branch connection has been cut incorrectly, with regards to position or shape, the Contractor shall be required to implement the necessary repairs, as indicated by the Engineer, at his expense. Depending on the severity of the damage the Contractor shall:
   i) remove the installed liner for the entire pipe length and replace with a new liner; or
   ii) install a small section of lining, as a localised repair, over the entire affected section. He shall ensure that there is no obvious reduction in the pipe diameter at this point which may result in blockages occurring. Additionally he shall ensure that the edges of the repair are extended over the non-affected edges of the liner immediately after the affected area and is sufficiently secured not to become detached for the full life-cycle of the original installed liner.

PS4.2.24.3 Testing

All sampling and testing of material in accordance with manufacturers specifications.

PS4.2.24.4 Jointing of pipes and fittings

Jointing of the replacement pipe, existing and new fittings shall be:
a) in accordance to manufacturer’s recommendations to provide a leak proof joint;
b) sufficiently strong to undergo the loading of the installation process; and
c) subject to acceptance by the Engineer prior to insertion.

PS4.2.24.5 Property or branch connection excavation

a) Property or branch connections shall be exposed and disconnected from the existing pipe prior to commencement of bursting. Property or branch connections to be redirected to manholes or if abandoned need not be excavated.
b) All excavations for property or branch reconnections shall be the minimum necessary to execute the operations. Care shall be taken to prevent material entering the live existing system when performing the disconnection and/or connection.

PS4.2.24.6 Reconnection of property and branch connections

Property connections shall not to be out of service for more than 8 hours, unless otherwise agreed in writing with the property owner or occupier. If this is not possible, temporary connections are to be made at convenient locations as approved by the Engineer. All inline or branch connections shall be addressed by temporary manhole isolation in terms of sub-clause PS4.2.19 (*Pipe length isolation*)

All connections shall be in terms of PS4.2.31 (*Localized pipe replacement and repair*), by means of approved fittings, in accordance with the manufacturer's instructions, for:

a) PVC pipes and fittings, using either, solvent-cement joints, push-on joints, threaded joints, clamps or flanged joints.
b) HDPE pipe and fittings, using fusion jointing techniques, clamps or flange joints (either installing flange ended fittings, HDPE flange adapters and mechanical couplings)

All polyethylene electro-fusion fittings shall be made in accordance with an appropriate and approved specification. If applicable, the grade of polyethylene of the fitting shall be the same as the replacement pipe

NOTA BENE: The replacement pipe shall be left for the manufacturer's recommended time, but normally not less than 4 hours, prior to service reconnections. This period shall allow for pipe shrinkage due to cooling and pipe relaxation due to the tensile stresses induced in the pipe during installation.

PS4.2.24.7 Structures and fittings

Where:

a) the replacement pipe enters or exits an existing structure, the wall shall be restored as specified in the Contract Documents. Restoration shall securely locate and anchor the new product in the wall and shall produce a leak proof seal. The existing structure's benching shall be restored according to the requirements of the new product, any other incoming product, and as specified in the applicable sub-clauses of PS4.2.27 (*Manhole repair and/or rehabilitation*).

b) new structures or fittings are required, they shall be installed as specified in the Employer's standards.

NOTA BENE: The replacement pipe shall be left for the manufacturer's recommended time, but normally not less than 4 hours, prior to structural and fitting installations or repairs. This period shall allow for pipe shrinkage due to cooling and pipe relaxation due to the tensile stresses induced in the pipe during installation.

PS4.2.24.8 Annular gap sealing for burst pipes

All annular gaps between the replacement pipe and the bore or existing pipe, in excess of 10mm, shall be grouted. This compound shall be as approved by the Engineer, but not have such rapid setting characteristics.

NOTA BENE: The replacement pipe shall be left for the manufacturer's recommended time, but normally not less than 4 hours, prior to annular gap sealing. This period shall allow for pipe shrinkage due to cooling and pipe relaxation due to the tensile stresses induced in the pipe during installation.

PS4.2.25 Localized pipe replacement or repair

PS4.2.25.1 Coupling clay or concrete and PVC or PE pipes

The Contractor shall ensure couplings between clay or concrete and PVC or PE pipes are durable and watertight SABS approved. All metal components of couplings shall be denso (or similar approved) wrapped to prevent corrosion.

PS4.2.26 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".*

PS4.2.26.1 Cement

Cement shall be Portland cement (or similar 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 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 will 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.

PS4.2.26.2 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.

PS4.2.26.3 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.

PS4.2.26.4 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			Strength (MPa)
	Part	Fine	Coarse	Size	
		Part	Part		
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.

PS4.2.26.5 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.

PS4.2.26.6 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.
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 will 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

PS4.2.26.7 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 will be considered.
New applications must be submitted to the Employer, well in advance.

PS4.2.26.8 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.

PS4.2.26.9 Expansion alkali-aggregate reaction

The use of some local aggregates may lead to an expansive alkali-aggregate reaction if the concrete in the structure will be exposed to continual dampness, or will 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 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:

a) 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.
b) 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.
c) 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.

PS4.2.26.10 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.

PS4.2.26.11 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:

a) the trade name of the mixture, its source and the manufacturer's recommended method of use;
b) typical dosage rates and possible detrimental effects of both under and over dosage; and
c) 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.

PS4.2.26.12 Slump test

The apparatus and the method of determination of the slump of freshly mixed concrete shall comply with SANS 5862-1.

a) Apparatus
   i) 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.
   ii) 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:

i) 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.

ii) 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 base-plate surface. Remove the mould from the concrete immediately by slowly and carefully raising it in a vertical direction. This will 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.

PS4.2.26.13 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 will 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 40m^3, or part thereof, of concrete cast. The sample taken from a batch of concrete and sufficient to make 3cubes 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
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.

PS4.2.26.14 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:

a) accept the concrete subject to approved remedial measures being undertaken by the Contractor at his own cost; or
b) permit the concrete to remain, subject to reduced payment for lower strength concrete.

PS4.2.26.15 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:

a) the quality, testing and mixing of the materials;
b) the laying of the material in place and the thorough compaction of the concrete to ensure solidity and freedom from voids;
c) the construction and removal of formwork; and
d) 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 will 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 will 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 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 20m^2 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.

PS4.2.26.16 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.

PS4.2.26.17 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.

PS4.2.26.18 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.

PS4.2.26.19 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.

PS4.2.26.20 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.

PS4.2.26.21 Cutting, punching or hacking concrete

No reinforced concrete shall be cut or hacked without the approval of the Engineer or his duly authorized representative.

PS4.2.26.22 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.

PS4.2.26.23 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.

All necessary bolts, plugs, brackets, cramps, etc. shall be cast into the concrete as the work proceeds.

PS4.2.26.24 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.

PS4.2.26.25 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.

PS4.2.26.26 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.

PS4.2.26.27 “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.

PS4.2.26.28 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/m^3, dressed to falls by varying the thickness, and a 20mm thick top layer having a density of 960kg/m^3.

PS4.2.26.29 Formwork

Formwork shall include all shuttering, casing and centering 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.

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.

PS4.2.26.30 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.

PS4.2.26.31 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.

PS4.2.26.32 Concrete reinforcement

a) Rod reinforcement

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. will 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 than 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 ±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 will 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:

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

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.

b) 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
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%.

PS4.2.27 Precast concrete
PS4.2.27.1 Materials
Cement, water, aggregates and reinforcement shall be as described under the concrete section.

PS4.2.27.2 Concrete, formwork and reinforcement
PS4.2.27.3 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.

PS4.2.27.4 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 will 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 will 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.

PS4.2.27.5 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.

PS4.2.27.6 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.

PS4.2.27.7 Sizes

Sizes given are approximate; the Contractor shall be responsible for ascertaining the exact sizes based on actual measurements.

PS4.2.27.8 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.

PS4.2.27.9 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.

PS4.2.28 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.

PS4.2.28.1 Lime

Lime shall be hydrated bedding mortar lime in accordance with the requirements of SANS 523.

PS4.2.28.2 Cement

Cement shall be as specified in the concrete section.

PS4.2.28.3 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.

PS4.2.28.4 Burnt clay bricks

a) Burnt clay bricks shall comply with the requirements of SANS 227, and shall be equal in all respects to the selected samples.
b) Clay bricks for foundations shall be as described in (a) above, but extra hard burnt.
c) Where bricks with holes are used, the holes in such bricks must only be filled in solid with mortar where specifically specified.
d) All bricks that do not carry the SABS Mark, must be tested by an approved laboratory.

PS4.2.28.5 Firebricks
Firebricks shall be of well burnt refractory fireclay, resistant to spalling and cracking and of same size as ordinary bricks.

PS4.2.28.6 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.

PS4.2.28.7 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.

PS4.2.28.8 Mortar tests
a) Sampling
The frequency of sampling will 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. 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 will be done by a laboratory approved by the Engineer and in accordance with SANS 5863.

PS4.2.28.9 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.

PS4.2.28.10 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.

PS4.2.28.11 Brickwork

Brickwork shall be:

a) 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.
b) built level and plumb with mortar as specified.
c) laid on a solid bed of mortar and all joints thoroughly grouted up solid throughout the whole width of each course.
d) 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.
Form or leave all necessary openings for pipes etc. and make good after pipes etc. are fixed in position.

PS4.2.28.12 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.*

PS4.2.28.13 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.

PS4.2.28.14 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.

PS4.2.28.15 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.

PS4.2.28.16 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.

PS4.2.28.17 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.

PS4.2.28.18 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.

PS4.2.28.19 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:

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.
≥ 1m ≥ 1.5m	6	Ditto
> 1.5m ≤ 2m	7	Three 6.3mm diameter mild steel rods for each half brick width of soffit.
> 2m ≤ 3m	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 damp course, 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).

PS4.2.28.20 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
≤ 1m	One12mm diameter mild steel rod in upper and lower cavities
> 1m ≥ 1.5m	One16mm 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.

PS4.2.28.21 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.

PS4.2.28.22 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.

PS4.2.28.23 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.

PS4.2.28.24 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 will not stain surrounding surfaces and that it will adhere steadfastly, remain plastic without sagging or running, be capable of accommodating any normal movement of the joint sealed, and will receive paint without "bleeding". The pointing material shall be forced into the joints, which shall have been previously prepared to receive same, by means of a pressure gun or by other suitable method, all in accordance with the manufacturer's instructions.

PS4.2.28.25 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.

PS4.2.28.26 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

PS4.2.28.27 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.

PS4.2.28.28 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:

a) brushed and washed (under pressure) clean prior pointing;
b) kept wet during pointing; and
c) 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.

PS4.2.28.29 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.

PS4.2.28.30 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.

PS4.2.28.31 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 will 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 are 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

PS4.2.28.32 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.

PS4.2.28.33 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.

PS4.2.28.34 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.

PS4.2.28.35 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 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 2.0m^2 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 will not harm adjoining paint and other finishing 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.*

PS4.2.29 Plastering

PS4.2.29.1 Lime

Lime shall be hydrated plaster lime complying with the requirements of SANS 523.

PS4.2.29.2 Cement

Cement shall be as specified.

PS4.2.29.3 Sand

Sand for plaster shall be as specified.

PS4.2.29.4 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.

PS4.2.29.5 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 1m^3 of plaster. The rendering coat shall be well scratched over to form a key for the setting coat.

PS4.2.29.6 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.

PS4.2.29.7 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).

PS4.2.29.8 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.

PS4.2.29.9 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.

PS4.2.29.10 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 20m^2 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.

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.

PS4.2.29.11 Reedings 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.

PS4.2.29.12 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.

PS4.2.29.13 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 will 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 spreading 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 manholes or chambers are screeded.*

PS4.2.29.14 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.

PS4.2.29.15 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.

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.

PS4.2.29.16 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.

PS4.2.30 General product requirements

PS4.2.30.1 Local content

Preference shall be given to materials fully manufactured in South Africa with South African raw materials.

PS4.2.30.2 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.

PS4.2.30.3 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 will survive the Contract Period, or replace the product at his cost.

PS4.2.30.4 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:

i) 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.

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.

PS4.2.30.5 Approved products
Only products that have been tested and which have been approved by the SABS shall qualify.

PS4.2.30.6 Application rates
As specified by the manufacturer.

PS4.2.30.7 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.

PS4.2.31 Specific work-related instructions
PS4.2.31.1 Contractor's responsibility
The Contractor shall be held responsible for damage to street or road surfaces, kerbing, stormwater drainage channels (gutters), existing utilities, etc. that result from his negligence during any survey. 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.

PS4.2.31.2 No disturbance
The Contractor shall be required to perform Works at all conduits with limited and approved disturbance to the existing service provision. Should the Contractor decide to use a stringing method to survey the conduit, the stringing lines shall not be left in the conduit for more than 5 days or without consent of the Engineer or his duly authorized representative.

PS4.2.31.3 Immediate danger
All obstructions, cracks, irregularities must be fully surveyed and documented. The Contractor must inform the Engineer immediately of any obstruction encountered, locations of hazardous atmosphere, or comduits that are in immediate danger of structural failure. Where possible:

a) the survey shall be done from the opposite side, whilst appropriate health and safety measures are adhered to, so that the extent of the danger can be assessed.
b) the position shall be clearly and accurately marked, to allow operations and maintenance to easily locate the position.

PS4.2.32 Survey reporting
PS4.2.32.1 Survey report drawings
The Contractor shall submit with his survey report(s) a combined set of drawings highlighting the following minimum requirements.

a) Water and sewer conduits

Drawings shall unambiguously indicate the location, size, shape, material, and condition of all

surveyed water and sewer conduits, with particular reference to:

i) condition grading of conduit;
ii) any previous rehabilitation and/or repairs executed;
iii) required point repairs; and
iv) the location and type of sewer blockages cleared or not cleared.

b) Water and sewer infrastructure Drawings shall unambiguously indicate the location of all surveyed infrastructure, i.e. water and sewer manholes and sewer backdrops, with particular reference to:

i) the type or water and sewer manhole cover and frames (hinged or non-hinged);
ii) whether sewer manhole was found in an open or closed position;
iii) the location and type of sewer blockages cleared or not cleared;
iv) rehabilitation and/or repairs required; and

v) any previous rehabilitation and/or repairs executed.

PS4.2.32.2 Report submission requirements

The Contractor shall submit to the Engineer survey reports as follows:

a) within a maximum 5 days after successful completion of the survey of a section of conduits, 2 copies of the report per item (unless specified otherwise), respectively for use by the Engineer and the Employer.
   i) 2 x copies of the printed survey report;
   ii) 1 x copies of the printed photographs and video prints (as specified);
   iii) 2 x USB storage drives each containing the identical survey report information as in the printed copies (as sated above); and
   iv) 2 x USB storage drives each containing the digital video recording. The Contractor shall ensure that entire surveys per manhole length shall be contained on a single USB storage drive. Thus, where possible, reverse set-up inspections shall be recorded immediately after the original inspection.

The Engineer requires that all of the sectional surveys of a single conduit be logically grouped together in a single report.

b) submit to the Engineer different survey reports (number of copies as specified above), as he may require different sections of the survey to be conducted using different survey methods.

c) submit to the Engineer separate survey reports (number of copies as specified above) for any part of the complete survey, this shall be noted in writing by the Engineer prior to the commencement of that section of the work.

d) comply with reasonable requests from the Engineer to supply the information on some parts of the survey whilst the complete survey is still in progress.

e) submit a report that contains a summary of the key surveying findings, including but not limited to:
   i) manhole references, with a note indicating whether the survey was successfully conducted or not, and stating reasons for unsuccessful surveys;
   ii) conduit diameter and lengths;
   iii) conduit material; and
   iv) a conditional assessment ranking of the various conduit or appropriate sub-sections thereof.

PS4.2.32.3 Contractual sign-off

The Contractor shall ensure that all reports submitted to the Engineer or his duly authorised representative are formally signed-off by the most senior Contractor designated manager, who shall be suitably qualified (preferably the Contract authorised signatory) as an indication that the report findings are an accurate account of the condition of the conduit or other infrastructure surveyed.

No report shall be accepted for review, and shall be considered incomplete by the Engineer or his duly authorised representative if it is not formally signed by the most senior Contractor designated manager.

PS4.3 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.

PS4.4 Construction equipment

See clause PS4.3.

PS4.5 Existing services

The Contractor:

a) must make provision for the possible existence of numerous services (e.g.: Stormwater, Water, Electricity, Fibre, Telkom, and the like) within and in close proximity to the work areas.
b) is to obtain wayleaves 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 wayleaves received from the various service providers.
c) 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.
d) 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).
e) 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.

PS4.6 Site establishment, facilities available and required

The Contractor will be responsible to locate his own site for the purpose of a construction camp and will be responsible for obtaining all relevant permissions from the relevant authorities. He shall additionally be responsible for the provision (and cost thereof) of the other required facilities as detailed in this document, which includes but is not limited to the items as detailed in clause C2.1.2 (Management, coordination and administration)

NOTA BENE*: Where the Contractor intends utilising an existing camp (as part of another project), own office and/or storage facilities or facilities of the Employer, proof must be provided as to how Preliminary and General costs are charged on this Contract and what the current arrangement with the other employer or this Employer is with regard to use of such facilities.*

PS4.7 Site usage

Site usage shall be limited to hours as specified in the Contract Data.

PS4.8 Permits and wayleaves

The Contractor will be required to obtain permits and wayleaves from all the applicable service providers within the jurisdiction of the NLM, thus including the following services: roads and stormwater, bulk water supply, electricity, gas, telecommunications (Telkom), and the like.
The Employer will assist the Contractor to obtain clearance from the various departments with services that are likely to be affected by the Contract. 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.

PS4.9 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.

PS4.10Water, sanitation and electricity for construction purposes

PS4.10.1 Water

The Contractor shall make his own arrangements with the Employer 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.

The Contractor may only draw water from fire hydrants through means of a legal, Employer owned, potable water metered standpipe. Failure to use such Employer owned potable water metered standpipes, or using illegal, non-Employer owned equipment for purposes of drawing water from fire hydrants, will result in the Contractor having to pay an account to the Employer, for an amount determined by the Employer

The potable water metered standpipe(s) must be made available to the Employer's water inspectors for purposes of reading and inspection, and failure to do so, will result in the immediate withdrawal of such potable water metered standpipe(s). The onus is on the Contractor to return such potable water metered standpipe(s) if they are found to be defective (not registering consumption). Failure to do so will result in an account being levied, payable to and determined by the Employer. Claims for delays caused where standpipe(s) are withdrawn and/or replaced will not be considered.

The current water tariffs applicable to the Contract are available from the Employer.

PS4.10.2 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 Contractor shall comply with the Employer's Sanitation General By-Laws Section 19(1) and 19(3).

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 Rates.

PS4.10.3 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 Rates.

Power used for carrying out of the works in accordance with these Specifications will not be subject to measurement or payment.

PS4.11Survey control and setting out of the works

The Contractor is to confirm the levels and coordinates of all benchmarks prior to commencing with construction.

PS5 MANAGEMENT OF THE WORKS

PS5.1 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

PS5.2 Planning and Programming

PS5.2.1 Work plan

Seven days prior to commencing with any part of the Works, the Contractor shall submit to the Engineer, for review and approval, a work plan detailing the procedure and schedule to be used to execute such works, detailing and substantiating any deviation from the originally proposed approach. Further, the work plan shall include a:

a) time frame;
b) description of all equipment and tools to be used;
c) list of personnel and their qualifications and experience (including back-up personnel in the event that an individual is unavailable);
d) list of sub-contractors, schedule of work activity;
e) safety plan (clearly highlighting any potentially hazardous substances to be used);
f) traffic control plan (if applicable);
g) an environmental protection plan; and
h) Contingency plans for possible problems.

The approval given by the Engineer shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as prescribed under this Contract

Work plan shall be comprehensive, realistic and based on actual working conditions. Further it shall form the various sub-sections of the overall Contract programme and plan

NOTA BENE: No works shall be allowed to commence without an approved work plan.

PS5.2.2 Planning

The Contractor shall ensure that he:

a) is well informed with regard to the Employer's overall maintenance programme and avail resources as required to efficiently complete this Contract; and
b) delivers goods and services timeously to meet the Employer's prevalent performance standards and where applicable to not unnecessarily delay any other contractors, service providers and suppliers.

PS5.2.3 Programming

In order to ensure a clear understanding, at the inception of the Contract, 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 Programme.

The programme shall at minimum contain:

a) Time Scale (minimum):
    i) Days, where the period does not exceed three months. Weeks, where the project period exceeds three months.
    ii) Months, where the period does not exceed one year.
    iii) Years, where the project period exceeds one year.
b) Tasks: Where phases or stages are anticipated, this shall be the highest level of division and all tasks related to the successful accomplishment of that phase of the area shall be grouped. Resources allocation and task dependency shall be indicated.
c) Start and Finish Dates: All tasks shall have specific start and finish dates.
d) Critical Path: All tasks forming the programme line that will establish any delays in the overall Contract Period shall be clearly indicated and an indication of their sensitivity characteristics shall be provided.
e) Progress Tracking: The Contractor shall be required to periodically indicate progress per task graphically and on a percentage basis.

f) Non-working Time: All South African public holidays, weekends and the local traditional annual builder's break shall be incorporated in the programme..
No deviation from the approved sequence of construction shall be accepted without prior written approval.

The programme shall not be in the form of a bar chart only, but shall show clearly the anticipated quantities of work to be performed each month, together with the manner in which the listed plant is to be used, as well as the anticipated earnings for the various sections of work.

***NOTA BENE*: A Contract programme shall be submitted no later than 7 days after Contract Commencement Date.**

The Contractor shall provide the Engineer with a method statement indicating the manner and sequence in which he intends to construct the works, for each work area, with the program. In the method statement the Contractor must address at least the following items:
a) sequence of the works for the relevant works area;
b) target dates for the tasks identified in sequence of the works for the relevant works area;
c) materials requirements;
d) construction Plant to be used;
e) services affecting construction; and
f) any factors that could affect construction progress after commencement.

The method statement must be approved by the Engineer before commencement of construction. In order to minimize the impact on traffic, pedestrians and business the Contractor will be required to segment the works in such a manner that no portion of the works is more than one day ahead of the following position. These segments of the works shall be clearly defined in the Contractor's method statement for each work area.

If, during the progress of the work, the quantities of work performed per month fall below those shown on the program or if the sequence of operations is altered, or if the program is deviated from in any other way, the Contractor shall, within one week after being notified by the Engineer, submit a revised program.

If the program is to be revised by reason of the Contractor falling behind his program, he shall produce a revised program showing the modifications to the original program necessary to ensure completion of the Works or any part thereof within the time for completion. Any proposal to increase the rate of work must be accompanied by positive steps to increase production by providing more labour and plant on the Site, or by using the available labour and plant in a more efficient manner.
Failure on the part of the Contractor to submit or to work according to the program or revised program shall be sufficient reason for the Employer to take steps as provided for in the JBCC.

The approval by the Engineer of any program shall have no contractual significance other than that the Engineer would be satisfied if the work is carried out in accordance to such program and that the Contractor undertakes to carry out the work in accordance with the program. It shall not limit the right of the Engineer to instruct the Contractor to vary the program should circumstances make this necessary.

PS5.3 Sequence of the works

The sequence of works to be executed shall be agreed between the Engineer and the Contractor. It is envisaged that the visual stormwater drainage surveys shall be executed and its findings shall determine the order of the other works. Also see 'Prioritising works' in the Contract Data section.

The Contractor shall address matters regarding the approval of his Health and Safety Plan, thereafter the works shall commence.

PS5.4 Software application for programming

The construction programme shall be completed in Microsoft ® Project Standard 2016 or compatible software. The construction programme and updated versions thereof shall be made electronically available to the Engineer.

PS5.5 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.

PS5.6 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.

PS5.6.1 Control sample photographs and/or video prints and/or recordings

If, in the opinion of the Engineer, any video prints and/or recordings fall significantly below the standard of the tender stage submitted samples, that part of the survey in question shall be re-surveyed, at the expense of the Contractor.

PS5.6.2 Pipe condition assessment

The accuracy of the pipe condition assessment coding system shall be highly reliant on the skill of the surveyor who conducts the survey and produces the report. Thus, the Contractor shall have a quality system that continuously monitors the standard of coding.

The procedure of this system shall be agreed with the Engineer, who shall specify the level of accuracy required prior to the Contract commencement.
The system shall measure the accuracy of reporting and in particular the:

a) number of defects/features not recorded (omissions)
b) correctness of the coding and classification of each defect/feature recorded.

PS5.7 Accommodation of traffic on public roads occupied by the Contractor

PS5.7.1 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 the South African Road Traffic Signs Manual.

PS5.7.2 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 will be made regarding maintenance of access.

PS5.7.3 Transport Department requirements

The Contractor shall provide a structurally sound and safe bridge with side rails across dangerous excavations crossing sidewalks to allow pedestrians safe access to such sidewalk. Associated costs for the provision of pedestrian access to sidewalks shall be deemed to have been included under the various excavations or combined activity rates and/or prices in the pricing schedules.

PS5.8 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 Employer.

PS5.9 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.

PS5.10 Recording of Weather and Abnormal Rainfall

If during the time for completion of the works or any extension thereof abnormal rainfall or wet conditions shall occur then an extension of time in accordance with clause 45 hereof shall be granted by the Employer calculated in accordance with the formula given below for each calendar month or part thereof.

$V = (Nw - Nn) + ((Rw - Rn)/X)$

V	Extension of time in calendar days in respect of the calendar month under consideration.
Nw	Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.
Nn	Average number of days, as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month.
Rw	Actual rainfall in mm recorded for the calendar month under consideration.
Rn	Average rainfall in mm for the calendar month as derived from existing rainfall records.

For purposes of the contract Nn, Rn, X and Y shall have those values assigned to them in the Appendix and/or the Specification.

The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for part of a month to be calculated using pro rata values of Nn and Rn.

This formula does not take account of flood damage that could cause further or concurrent delays and will be treated separately as far as extension of time is concerned.

The factor (Nw-Nn) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm. The factor (Rw-Rn)/X shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed Y mm but wet conditions prevented or disrupted work.

The following average rainfall figures are applicable:

INFORMATION SOURCE: South African Weather Service

Pretoria, Tel.: 082 233 8484

Y = 10 mm/24 hour day
X = 20 mm

Table 5.1: Statistical rainfall

STATISTICAL INFORMATION: EDENVILLE:		
Month	**RAINFALL**	
	Nn = Actual number of days during the calendar months in which a rainfall of more than Y-mm has been received	**Rn Average monthly rainfall**
January	4.1	84
February	3.6	80
March	2.6	74
April	1.1	50
May	0.5	18
June	0.1	8
July	0.0	0
August	0.2	6
September	0.3	16
October	2.0	44
November	3.0	58
December	3.8	50
TOTAL	**21.3**	**488mm**

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. 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.

PS5.11Format 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.

PS5.12 Key personnel
PS5.12.1 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. The Contractor shall provide the following minimum key staff:
a) Contract manager;
b) Site Agent;
c) Quality Manager/Auditor/Controller;
d) Health and Safety Officer/s; and
e) Foremen.

The Contractor shall ensure that at least one sufficiently experienced pipe bursting supervisor is on-site full time while pipe bursting operations are performed.

PS5.13 Management meetings
Fortnightly site meetings shall be arranged and facilitated by the Engineer or his representatives. 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.

PS5.14 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.

PS5.15 Daily records

The Contractor shall keep daily site records as required by the Employer 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 shall is the property of the Employer and shall be made available to the Employer or his representative within 24 hours from being requested to do so.

PS5.16 Bonds and guarantees

In addition to JBCC Clause 11, the Contractor shall provide the Form of Guarantee for the due and punctual fulfilment and completion of all the Contractor's obligations under the Contract. No extension of time of the Contract Period of Performance or neither any variation of the Contract, nor the determination of the Contract by the Employer in terms of Clause 58 hereof, shall in any way impair or diminish or terminate any liability to the Employer under and by virtue of such Guarantee.

Should the Contractor, when notified of the acceptance of his offer, fail to provide an approved Guarantee within the stated period, then the Employer may, at his sole discretion:

(a) Grant the Contractor a further reasonable period in which to provide the bond; or

(b) 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.

PS5.17 Payment certificates

Payment certificates shall be submitted to the Engineer, in the format required, for approval and final submission to the Employer on a monthly basis.

PS5.18 Permits

Refer to PS 5.8

PS6 FEATURES REQUIRING SPECIAL ATTENTION

PS6.1 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 and/or Employer, 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 Engineer and/or Employer representative at a convenient and safe location and thereafter escort to the necessary areas.

PS6.2 Operation of valves

Only employees of the Employer are permitted to operate primary and secondary water mains valves.

PS6.3 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) will be completed during hours that will not affect the supply of water to affected communities.

PS6.4 Sanitary facilities

The Contractor is required to supply adequate sanitary facilities for employees, visitors, the Engineer and Employer.

PS6.5 Community liaison and community relations

For the purpose of this project a community liaison officers will be required; who shall be required to inform the community with regards to Contractor's activities in particular where such activities may affect the service provision to the affected community (See PS6.6).

PS6.6 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.

b) A Public Notification Program shall be implemented, requiring at minimum that the Contractor shall deliver written notices to each domestic and non-domestic customer affected by the works, 48 hours before commencement of the works, including providing:
   i) a summary of work to be completed;
   ii) the time and duration of service interruption; and
   iii) a local telephone number to contact the Contractor for inquiries or complaints. All complaints received shall be addressed and resolved within the standard Employer response times and a summary of such complaints and associated actions shall be presented to the Engineer or his duly authorized representatives on a monthly basis.

PS6.7 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 Engineer.

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 Employer 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.

PS6.8 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.

PS6.9 Generic labour intensive specifications

EPWP guidelines shall be applicable to this Contract, it is expected that the Contractor execute the majority portion of the works utilizing general labour and skilled labour.

PS6.10 Causes for rejection

Causes for rejection shall include, but not be limited to, not complying to the Employer's requirements and/or specifications and the intended purpose for this Contract, thus:

a) poor data (including: photographs, recording, prints and reports) and data management;
b) inaccurate surveys, with regard to linear meterage of manhole length;
c) poor quality of survey information;
d) silt, grease, and debris remaining in conduits after cleaning; and
e) poor quality construction and remedial works:
    i) cracks in any concrete works or pre-cast units shall be cause for rejection.
    ii) honeycombed or patched areas in any concrete works or pre-cast units in excess of 0.02m^2 shall be cause for rejection.

PS7 HEALTH AND SAFETY FOR CONSTRUCTION WORK

Tendering Contractors are to prepare Health and Safety Plans in accordance with Ngwathe Local Municipality's Health and Safety Specification (refer to Volume 2: Occupational Health and Safety Specification and Environmental Management Plan f**or Capital Investment Projects). 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.

PS7.1 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 (Volume 2), specific 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:

- Excavation
- Hand tools
- Working in confined space
- Site establishment
- Traffic control
- Gas detection
- Access to pits
- Machinery use
- Working close to existing services i.e. electrical, waste water etc
- Working close to traffic
- Working at night
- Working with liner adhesives (potentially toxic)
- Domestic animals (on private property)
- Loading/unloading - of trucks
- Material delivery
- Material handling
- Waste handling
- Mixer operator
- Placing concrete
- Machine operator
- Compressors – Air
- Workshops
- Excavator
- Fire prevention and protection
- Fuel supply
- Laying of pipes
- Trenches – Digging of
- Use of portable electrical tools
- Gas welding-cutting operations
- Drivers – of vehicles
- Electrical installation – Maintenance of

Safe work and emergency procedures need to be prepared to address the relevant abovementioned risks.

PS7.2 Guide to risk assessments

PS 7.2.1 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.

PS 7.2.2 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.

Consequence	Probability A	B	C	D	E
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	=	Serious	Immediate (within 1 week).
4 - 5	=	High	Within 1 month.
6 - 7	=	Moderate	> 4 weeks.
8 - 9	=	Acceptable	No action but will consider from time to time.

PS8 ENVIRONMENTAL MANAGEMENT PLAN

Tendering Contractors are to adhere to the mitigation measures listed in the EMP (refer to Volume 2: Occupational Health and Safety Specification and Environmental Management Plan f**or Capital Investment Projects). Environmental m**itigation 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).

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: *Survey control and setting out of the works*
5.2	Watching, barricading, lighting and traffic crossings.	See clause PS 5.7 *Accommodation of traffic on public roads occupied by the Contractor*
8.3.2.2 (c) and (d)	Facilities for the Contractor (c) Laboratories (d) Living accommodation	Contractor's management and labourers are not permitted to reside on site over-night.
8.4.2.2 (c) and (d)	Facilities for the Contractor (c) Laboratories (d) Living accommodation	Contractor's management and labourers are not permitted to reside on site over-night.
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 will 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. 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, 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 will 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 will 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 will be paid for in terms of the conditions of contract, but no such work will 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**. Payment for time-related items will be effected as follows only after payment for the relevant fixed-charge item has been made: Subject to the provisions of 8.2.3 and 8.2.4, payment of incremental amounts (calculated by the division of the remainder of the tendered sum by the number of months required to complete the site activities for which the relevant sum was tendered) will be authorized in each of the subsequent progress certificates until the sum tendered has been paid. ***NOTA BENE***: Should the Engineer grant an extension of time, the Contractor is entitled to an increase in the amount tendered for time related items however this shall be limited to time-related item(s) as deemed necessary to successfully

	complete the extended work, at a unit rate determined from the sum tendered for such item or the unit rate for the sub-item as per clauses 8.2.1 and 8.2.2 or a variation thereof. Payment for such increased amounts will be considered as full compensation for all time related and general costs which arise as a result of the extension of time.
8.3.2.1	**Facilities for Engineer** This rate shall include the complete costs for the provision of the Engineer's facilities (as listed below) to site, the erection (establishment) on site and the removal upon Contract completion or other. ***Unit: Sum*** a) Name boards (No…) b) Communication
8.4.2.1	**Facilities for Engineer** This rate shall include the complete costs for the maintenance of the Engineer's facilities (as listed below) during construction. ***Unit: Month*** a) Name boards (No…) b) Communication

ADDITIONS

Add the following clauses:

Standard clause	**Add PSA…**
	… new clause: **2.9 SUPPORTING SPECIFICATIONS** Ngwathe Local Municipality, Public Road and Miscellaneous By-laws, Code of Practice for work in the road reserve (COP), Latest Version. Should any requirement of this COP conflict with any requirement of the standardized or particular specifications the requirements of the COP shall prevail. The COP is available at Ngwathe Local Municipality Offices, Wayleaves Department, Contact number: (056) 816 2700
5.2	*…at the end of the existing clause(s):* 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.
	… new clause: **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.
8.2.1 and 8.2.2	*…at the end of the existing clause(s):* Where lump sums are provided for a preliminary and general item or section of the schedule of quantities is provided to cover the Contractor's charges for compliance with the requirements of the conditions and specifications of Contract, ***if so required*** the Contractor shall provide a lowest-level composition of the various sub-items that result in the total provided sum.
8.3.1, 8.3.3, 8.4.3 and 8.4.5	*…at the end of the existing clause(s):* The Contractor shall provide a lowest-level composition of the sum in the space provided. If more space is required the Contractor shall use the Returnable Schedule item T2.2.33

SANS 1200AB: CIVIL ENGINEERING CONSTRUCTION: ENGINEER'S OFFICE

VARIATIONS

Delete and replace the standard referenced clauses:

Delete standard clause	**Replace with PSAB...**
3.1	**Nameboards** The Contractor shall supply and erect, at approved sites, two nameboards that shall comply as regards size, painting, decorating and detail, with the recommendations for the standard board of the south African Institution of Civil Engineers. The Employer, Engineer and Contractor to be painted on the boards shall be as ordered or as shown on a drawing. Each board shall be made of tempered hardboard of thickness at least 12 mm, so braced on the reverse side as to prevent warping, and mounted on two or more, as necessary, firmly planted poles. Refer to detailed drawings.
4.1	**Communication** The Contractor shall : a) provide a telephone fax machine (a single unit which allows for making telephone calls and sending and receiving faxes) with a 10-page minimum auto-feeder for outgoing faxes and a stacking receipt tray for incoming faxes. b) subject to availability from Telkom, arrange for the installation in the office building of one or more (as required in terms of the project specification) telephone line(s). The telephone fax machine and telephone line(s) shall ONLY be available for use by the Engineer.

5.4	**Communication** The Contractor shall: a) advise Telkom of any faults that develop in the telephone service and he shall, in such event, arrange for the earliest possible restoration of the said service. b) ensure that telephone accounts are paid promptly. Costs of the Engineer's telephone calls, faxes and rental shall be recoverable from the Employer.

SANS 1200C: CIVIL ENGINEERING CONSTRUCTION: SITE CLEARANCE

VARIATIONS

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:

Standard clause	**Add PSC…**
	5.9 Removal of man-made surfaces The Contractor shall remove all types of man-made surfaces including kerbing, asphalt, concrete, concrete slabs, segmental concrete paving blocks, grassing and vegetation, where works are to be executed. The material removed shall, where material is: a) to be used in the reinstatement works, maintained at an approved storage site identified by the Contractor as soon as it has been removed from the works area. b) not to be used in the reinstatement works, spoiled off-site on a site identified by the Contractor as soon as it has been removed from the works area. Removal of such man-made surfaces shall be limited to the minimum area required to effectively perform the works. Any damage to surface materials to be used in the reinstatement works, whilst under his care, shall be replaced at the Contractor’s expense.
	5.10 Take down existing masonry walls and palisade fences

The Contractor shall take down parts of existing masonry walls or palisade fences that hinder works, limited to the minimum required to facilitate the proper execution of the works. He shall be responsible for on-loading, transporting, off-loading, storage and maintenance at a site selected by him for the walls of various thicknesses or palisade fences.

5.11 Dismantling and removal of existing infrastructure

All pipework, electrical and mechanical infrastructure shall remain the property of the Employer and shall thus be delivered to the Ngwathe Local municipality Stores. All other infrastructure dismantled shall be spoiled off-site at a site identified by the Contractor, in consultation with the Engineer.

Where:

- Civil infrastructure shall include but not be limited to: pipework, valves rainwater guttering and concrete rainwater channels.
- Structural infrastructure shall include but not be limited to: Roof metal sheeting, roof trusses, hoisting beams, brick walls, concrete floors, concrete foundations, window frames and doorframes.
- Electrical infrastructure shall include but not be limited to: Extraction fan, distribution box, light fittings, cabling and switches.
- Mechanical infrastructure shall include but not be limited to: pumps, lifting pulley,

5.12 Backfilling and reinstatement of man-made surfaces

Reinstatement of surfaces shall be in accordance with the Project Specification, variations and additions to the SANS 1200 specification and the COP, where the COP shall enjoy preference.

Should the Contractor fail to reinstate the surface of any trench or any other excavation, other than where reinstatement is to be carried out by the Contractor, within 2 weeks of all the backfilling and compaction having been completed to receive surfacing, the Engineer may, at his discretion, arrange for such reinstatements to be carried out by another party and the cost of this work shall be deducted from monies due to the Contractor. The Contractor shall not be relieved of any responsibility for defects or claims arising from the condition of any trench reinstated by the other party on the instructions of the Engineer.

5.12.1 Backfilling of roads

Backfilling refers to the replacement of the structural layers in the trench or excavation and includes the base, subbase, selected sudgrade and subgrade, but excludes the surfacing. Reinstatement refers to replacing the bituminous surfacing or paving blocks in the case of roads, or the paving blocks, paving slabs, bituminous surfacing or grass in the case of footways and verges.

The minimum requirements of that the structural layers of the backfilled trench, i.e. the base, subbase, selected subgrade and subgrade down to a depth of 800 mm below the level of the surfacing of the road, must have at least the same shear strengths as those of the adjacent undisturbed structural layers. One of the following methods must therefore be used to ensure adequate shear strengths in trench backfill. The Contractor may use any one of the three methods for backfilling.

a) Method A. Re-using excavated material

During excavation of the trench, the material from the top 400 mm of the excavation (or in the case of arterials, collectors and industrial roads, the top 550 mm) must be stockpiled separately from the rest of the material being excavated. This material must then be improved through chemical stabilisation with cement and used for the base and subbase layers during backfilling, and in the case of arterials, collectors and industrial roads also for the selected subgrade layers. The requirements for this method are given in Figure 1 (contained in the COP). If the material is not stockpiled separately during excavation.

b) Method B. Importing material

Import a G5 gravel material and stabilise with 60 kg of cement per m^3 of material. Water must be uniformly mixed into the material. The material must then be placed in the trench in 75 to 100 mm layers and compacted to the required Mod. AASHTO densities as specified in Figure 1 to the Code. The final layer must be finished to a level of 100 mm below the level of the surrounding sound surface of the road.

c) Method C. Low strength concrete: Specially designed concrete mix (SDCM) for trench backfilling

All road trenches / openings: Place 300 mm SDCM concrete of minimum 2.5 MPa crushing strength (28 days) and manufactured to an approved manufacturer's specification. The SDCM concrete mix is to be placed 50 mm below the level of the surrounding sound surface of the road. The rest of the trench is backfilled with selected approved material compacted to 90% of MOD AASHTO density.

All footway trenches / openings: Place 150 mm SDCM concrete of minimum 2.5 MPa crushing strength (28 days) and manufactured to an approved manufacturer's specification. The SDCM concrete mix is to be placed 30 mm below the level of the surrounding sound surface of the road. The rest of the trench is backfilled with selected approved material compacted to 90% of MOD AASHTO density.

Quality control of the backfilled structural layers can be done by measuring the shear strengths of the adjacent structural layers as well as that of the backfilled layers. The shear strength can be measured with a dynamic cone penetrometer (DCP) or a rapid compaction control device (RCCD). Although the shear strengths of the backfilled layers will be measured against the undisturbed structural layers, an indication of probable acceptance on most roads can be obtained from the typical DCP and RCCD Penetration diagram shown on Figure 2 (contained in the COP).

5.12.2 Backfilling of footways

a) Any footway, where there is no possibility of vehicles crossing the footway, must be backfilled using the excavated material, placed in the trench in 150 mm layers and compacted to 90 % Mod AASHTO density (maximum DCP penetration of 19 mm/blow) for all layers below the base and 93 % Mod AASHTO density (maximum DCP penetration of 14 mm/blow) for the base.

b) Any footway where there is a possibility of light vehicles (cars and LDV's) crossing the footway, typically where there is mountable kerbing, must be backfilled using Method A or Method B described above according to the standards for local streets specified in Figure 1 (contained in the COP).

c) Where any heavy vehicles make use of a footway, such as loading zones in industrial areas, the footway must be backfilled using Method A or Method B described above according to the standards for arterials, collectors and industrial roads on Figure 1 (contained in the COP).

	d) Any excavation in an unconstructed verge must be backfilled in such a way that the verge is in the same condition after backfilling as it was before excavation. All excess material must be removed and not spread over the verge. Topsoil must be removed and stored separately and replaced as the final layer.
	5.13 Reinstate existing masonry walls and palisade fences The Contractor shall reinstate masonry walls or palisade fences (including any gates) taken down as part of this Contract, to the same or higher standard of the existing wall or palisade fence, in terms of clause PSC 5.10 The original removed bricks shall be used in the reinstatement works. Bricks damaged during removal, cleaning or storage activities shall be replaced with identical (in appearance, size, and shape) bricks. Where identical bricks cannot be obtained, the Contractor shall: • obtain permission from the owner of the property to use replacement bricks in the section to be reinstated; or • replace the entire affected panel. Where face brick walls are to be reinstated, the original removed bricks shall be thoroughly cleaned prior to reinstatement. The Contractor shall be responsible for on-loading, transporting, off-loading, storage and maintenance at a site selected by him for walls of various thicknesses.
	8.2.7 Dismantling and removal of existing infrastructure The rate shall cover the cost of dismantling, lifting, and delivery or disposing of existing infrastructure, including all excavations, compaction and backfilling required of the following nature: Unit: sum a) Civil infrastructure b) Structural infrastructure c) Electrical infrastructure d) Mechanical infrastructure
	8.2.5 Take down existing masonry walls and palisade fences The rate shall cover the cost of taking down existing masonry walls (plastered or unplastered) and palisade fences (including any gates), on-loading, transporting, and off-loading, storing and maintaining or spoiling for the following: Unit: m^2 a) 110mm wall b) 220mm wall c) 330mm wall d) Steel palisade fences (height = 2.1m)
	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: m^2 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 ≤ 100mm thick) and including base, sub-base and subgrades layers up to 800mm deep. b) Footways and driveways i) Asphalt ≤ 50mm thickness ii) Asphalt > 50 ≤ 100mm 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 viii) Grassing ix) Kerbing (all types of kerbing) ……... (Unit: m)
	8.2.12 Backfilling and reinstatement of man-made surfaces The rate shall cover the cost of all associated plant, labour, material, loading, transportation from storage, off-loading and placing (levelling and compacting where applicable) the following materials in roadways, footways and driveways in accordance with the COP: **8.2.12.1 Backfilling and reinstatement of roads** Unit:m² **a) Method A** i) 150mm base ii) 150mm subbase iii) 150mm selected subgrade **b) Method B** i) 150mm base ii) 150mm subbase iii) 150mm selected subgrade **c) Method C** i) 150mm base ii) 150mm subbase iii) 150mm selected subgrade **d) Surfacing** i) 30mm Bitumen hot –mix: Fine ii) 70mm Bitumen hot –mix: BTB
	8.2.12.2 Backfilling and reinstatement footways Unit:m² a) Using removed materials: i) Interlocking concrete segmental paving blocks (all colours) ii) Concrete slabs (450 x 450mm) iii) Brick paving iv) Grassing v) Kerbing……... (Unit:m)
	b) Using new supplied materials: Unit:m² i) 30mm Bitumen hot –mix: Fine ii) Interlocking concrete segmental paving blocks, including a 20mm river sand bedding layer, jointing sand (plaster sand) and mortar infill between edge restraint and blocks

	1) Grey blocks 2) Coloured blocks iii) Concrete slabs (450 x 450mm) including a 20mm river sand bedding layer, jointing mortar. iv) Brick paving including a 20mm river sand bedding layer, jointing sand (plaster sand) and mortar infill between edge restraint and bricks. v) Unreinforced concrete ≤ 75mm thick (15MPa) vi) Reinforced (395 mesh) concrete ≤ 75mm thick (15MPa) vii) Grassing viii) Concrete channeling, including formwork, leveling and compacting 300 x 125mm cast in situ concrete of 15MPa. ix) Kerbing, including a 50mm bedding (cement and river sand), jointing mortar and 15MPa concrete haunching at all joints. (Unit:m) 1) Figure 1 2) Figure 7 3) Figure 8 4) Figure 12
	8.2.13 Reinstatement of existing masonry walls and steel palisade fences The rate shall cover the cost of reinstating existing masonry walls, plastered or unplastered, and steel palisade fences (including any gates) including plant, labour, material, on-loading, transporting, off-loading and cleaning for the following: Unit: m^2 a) Face brick i) 110mm wall ii) 220mm wall iii) 330mm wall b) Plastered i) 110mm wall ii) 220mm wall iii) 330mm wall c) Steel palisade fences (height = 2.1m)

SANS 1200DA: CIVIL ENGINEERING CONSTRUCTION: EARTHWORKS (Small Works)

VARIATIONS

Delete the following standard referenced clause:

Delete standard clause	Description	Comments
5.1.8	Road Traffic Control	The Contractor shall comply with the requirements of the COP, PS 5.7 and PSA 5.9
5.2.6.2	Overhaul	Overhaul is not applicable.

Delete and replace the standard referenced clauses:

Delete standard clause	Replace with PSDA...
5.1.1.1	**5.1.1.1 Barricading and lighting** Delete the existing clause and replace with the following: In terms of the applicable regulation of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983) every excavation by which the safety of persons may be endangered, shall a) be adequately protected by a rubber mesh barrier / fence of height at least 1.2m and be placed as close to the excavation as practicable; b) Provide red warning lights at night. It shall be the responsibility of the Contractor to ensure that the barricades and lights remain functional at all times.
5.2.6.1	**5.2.6.1 Freehaul** All distances applicable are considered as free haul distances and no additional payment will be applicable.
8.3.1 (c): (3) and (4)	**8.3.1 Excavation** c) Extra-over for: 3) Boulder excavation Unit: m^3
8.3.3	**8.3.3 Overhaul** Overhaul are not applicable hence all distances applicable are considered as free haul distances and no additional payment will be applicable.

ADDITIONS

Add the following clauses:

<table>
<tr><td>Standard clause</td><td>Add PSDA …..</td></tr>
<tr><td></td><td>2.1 SUPPORTING SPECIFICATIONS
1) Ngwathe Local Municipality, Public Road and Miscellaneous By-laws, Code of Practice for work in the road reserve (COP), Latest Version. Should any requirement of this COP conflict with any requirement of the standardized or particular specifications the requirements of the COP shall prevail.
The COP is available at Ngwathe Local Municipality Offices, Wayleaves Department, Contact number: (056) 816 2700</td></tr>
<tr><td></td><td>3.4 CLASSIFICATIONS FOR HAND EXCAVATION

Classification of material for various types of hand excavation will 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>Category of Material</th><th colspan="2">Consistency</th><th colspan="2">DCP Blows to Penetrate 100mm</th></tr>
<tr><th></th><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</td><td>Very dense</td><td></td><td>16-50</td><td>-15</td></tr>
</table>
</td></tr>
</table>

	requires prior breaking using mechanical equipment, such as pavement breakers with clay spades, before being removed from the trench.				
	<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

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 manholes shall be constructed as soon as possible after excavation and then backfilled. Under no circumstances will excavations be left open for more than 1 week.

The Contractor shall inform the Ngwathe Local Municipality (NLM) at least 7 days in advance of the actual date on which he proposes to excavate in any road or footway.

5.2.2 Excavation

h) Where the manholes 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 will 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 manhole 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 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.
	7.4 Quality Control Testing Any testing by the Client will not relieve the Contractor of his responsibility to ensure adequate compaction and material quality throughout and the Contractor should therefore carry out his own regular tests. The Contractor shall furnish the Engineer with the originals of all such test results. If any test result shows that the specified compaction or shear strength requirements have not been met, the Contractor shall at his own expense and within 7 days of receipt of the Engineer's instruction take the following remedial action: 2) Backfill material other than structural layers of bituminous roads and constructed footways a) Trench excavations (other than road crossings) The backfill material shall be removed to a depth of 450mm for a distance of 2m on either side of the point at which the test was taken. If the backfill material is suitable, it shall be replaced and re-compacted to the specified densities. Otherwise suitable material shall be imported and compacted and the excess material removed. Where adjacent test results show that the backfill densities are below specified requirements, the entire length of trench between the points at which the tests were taken shall be re-excavated and re-compacted as required above. Density testing along trench excavations shall be carried out at intervals, as directed by the Engineer. b) Trench excavations (road crossings)

As for (a) above save that the backfill material shall be removed to a depth of 450mm over the full length of the trench.

c) All other excavations
As for (a) above save that the backfill material shall be removed to a depth of 450mm over the extent of the excavation.

3) Structural layers of bituminous roads and constructed footways
In the case where a structural layer does not meet the shear strength requirements, the structural layer in question shall be removed. If, however, any other layers have been constructed on top of the layer in question, then all such layers shall also be removed at the cost of the Contractor, even if the shear strengths of these layers meet the specification.

a) Trench excavation (other than road crossings)
The layer shall be removed to its full depth for a distance of 2m on either side of the point at which the test was taken. If the material is suitable, it shall be replaced and re-compacted to the specified shear strength. Otherwise suitable material shall be imported and compacted and the excess material removed.
Where adjacent test result show that the shear strengths are below specified requirements, the entire length of trench between the points at which the tests were taken shall be re-excavated and re-constructed as required above.
In-situ shear strength testing along trench excavations shall be carried out at intervals, as directed by the Engineer.

b) Trench excavation (road crossings)
As for (a) above save that the layer shall be removed to its full depth over the full length of the trench.

c) All other excavations
As for (a) above save that the layer shall be removed to its full depth over the extent of the excavation.

4) Premix reinstatement

a) Trench excavations (other than road crossings):
The premix shall be removed for a distance of 1m on either side of the point at which the test was taken and reinstated in accordance with the COP requirement.

b) Trench excavations road crossings:
As for (a) above save that the premix shall be removed over the full width of the road.

c) All other excavations:
As for (a) above save that the premix shall be removed over the full extent of the excavation.

SANS 1200LD: CIVIL ENGINEERING CONSTRUCTION: SEWERS

VARIATIONS

Add the following to this subclause:

Standard clause	Add to PSLD…
	5.6.5 Precast Concrete Manholes *Add the following to this subclause* All heavy duty frames and covers shall be ductile iron. The manhole cover and frame shall comply fully with the requirements of SANS 50124, Class C250, and be manufactured from spheroidal graphite cast iron, complying with the requirements for Grade 42 of SANS . The manhole cover shall be of sliding action or hinged type to prevent removal of the cover when secured in the frame. The locking device shall be incorporated into the cover to prevent unauthorized interference. The cover shall have anti-slip projections on the top surface, so arranged as to form an acceptable uniform pattern. The following information shall be clearly legibly cast on the cover: o the SANS Standardization Mark; o the manufacturer's name, trade name or trade mark; o the duty/class of cover o the type number o the approved Ngwathe Local Municipality logo

C3.3: PARTICULAR SPECIFICATIONS

In addition to the Standard Specifications and the Project Specifications, the following Particular Specifications shall apply to this contract and are bound in hereafter:

3.3 PARTICULAR SPECIFICATIONS

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

C.1 General

In order to ensure that the construction work is carried out in an environmentally sensitive manner, strict compliance with the Environmental Management Plan (EMP) guidelines is required. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
  - i. Minimise disturbance of the natural environment,
  - ii. Prevent pollution of land, air and water,
  - iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

C.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes subcontractors, casual labour, etc.). The EMP shall be part of the terms of reference for all contractors, subcontractors and suppliers.

C.3 Complaints Register and Environmental Incident Book

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the Construction Manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter, etc.,),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

C.4 Site Cleanliness and Neatness

- Location of a construction camp is to be approved by the Employer's Agent and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1.8m Bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

C.5 Access

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

C.6 Borrow Pits

- Mining authorisations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs and Forestry (DWAF).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWAF.

C.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working condition and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

C.8 Fauna

- Contractors and subcontractors staff and participants may not chase, catch or kill animals encountered during construction.

C.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The Contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owners' lands.

C.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

C.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc.,) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Participants must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.
- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc.,).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The Contractor should keep Peat Sorb or a similar absorbent on site to clean up any spills.

The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

C.12 Noise

- Noise generating activities must be restricted to between 07h00 and 17h00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

C.13 Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

C.14 Rivers and Streams

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

C.15 Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of participants, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside the road during the operation phase in order to control traffic.
- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

C.16 Soil Management

- Storm water drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimised by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of storm water.
- Spoil from cuts may be used in existing erosion gullies.
- Stone pitching and gabions should be constructed at pipe culvert outlets.
- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary an absorbent such as Peat Sorb should be used to aid in cleaning up the spill. The contaminated soil should be disposed of in an appropriate container, depending on its classification.
- Servicing and refuelling of vehicles must only be carried out at the construction camp.

C.17 Participant Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish which will attract animal pests.

- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated participant collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

C.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

C.19 Vegetation

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

C.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The Contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc.,) must be stored in leakproof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Employer's Agent.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets, etc.,) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section C.11 and C.16.

3.3 PARTICULAR SPECIFICATIONS

PART D: DAYWORK

PART D: DAYWORK

This part of the Particular Specifications deals with the provision for daywork in the Schedule of Quantities. Rates for daywork shall be entered in the Schedule of Quantities in accordance with the following specifications.

D1. SCOPE

According to Clause 6.5 of the General Conditions of Contract 2015, certain work may be carried out using rates tendered in the daywork schedule. A schedule of personnel, plant and equipment which may be necessary to perform work on a daywork basis is included in the Schedule of Quantities. The quantities used in the Schedule of Quantities are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.3 of the General Conditions of Contract 2015.

No work will be paid for as daywork without the written instruction or approval of the Employer's Agent.

D2. TYPE OF WORK

The Employer's Agent may order daywork in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Employer's Agent. Daywork will only be used in exceptional circumstances.

D3. MATERIALS

Materials for use in works carried out under daywork shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section D of the Schedule of Quantities for daywork materials. The Contractor shall enter a tendered percentage in the Schedule of Quantities to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in C2.1, 'Pricing Instructions'. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in daywork with his daywork claim to the Employer's Agent. Further, if specific materials are required for daywork, quotations will be called for as per Clause 6.5.2 of the General Conditions of Contract 2015.

D4. CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section D of the Schedule of Quantities shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the Schedule of Quantities for a particular piece of equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.3 of the General Conditions of Contract 2015 will be used.

The tendered rates for each item of construction plant shall include all operating costs associated with the said item of plant. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing/maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the plant operator and the general supervision of the plant while it is engaged in the daywork.

D5. SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in the Schedule of Quantities. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen's compensation, medical aid and pension

contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the daywork.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the daywork rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen's job description e.g. picks, shovels, hammers, saws, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Employer's Agent, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

D6. MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of daywork.

The unit of measurement for plant shall be the number of Vibroclock hours worked and each item of plant shall be fitted with a Vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor's attention is drawn to the requirements of Clauses 6.5.3 and 6.5.4 of the General Conditions of Contract 2015 with regard to the submission of daywork claims.

C3.3 PARTICULAR SPECIFICATIONS

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

E1. SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy working environment for all employees, subcontractors, the Employer, the Employer's Agent, inspectors and all other persons entering the site of works.

This specification shall be read in conjunction with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993 and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Act and Construction Regulations.

In terms of the OHSA Agreement in Section C1.4 of the Contract document, the status of the Contractor as mandatary to the Employer (client) is that of an employer in his own right, responsible for compliance with all provisions of OHSA 1993 and the Construction Regulations 2014.

This specification and the Contractor's own Health and Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees, representatives of trade unions and any other persons entering the site of works.

E1.1 Information based on the Employer's baseline risk assessment

The information presented in this subclause E1.1 is based on the Employer's baseline risk assessment prepared specifically for this contract.

This information describes the type of work required in terms of this contract that will be accompanied by dangers, hazards and risks which the Contractor shall be required to identify, analyse, manage, monitor and review in terms of the Health and Safety Plan and risk assessments.

This information is neither prescriptive nor exhaustive and is provided as a guideline to Tenderers in preparing their tender submissions, and to the successful Contractor as a basis for the preparation of the site specific risk assessments to be performed by the Contractor in terms of Construction Regulation 9.

Tenderers shall make their own assessment of the dangers, hazards and risks that can be expected during the course of this contract, which may include dangers, hazards and risks not identified in the baseline risk assessment, including those that may arise from specific methods of construction employed by the Contractor, and shall make due allowance in their tendered rates and prices for all costs related to complying with the provisions of the Act and Construction Regulations.

This information is given in good faith for the guidance of Tenderers, and no additional payment shall be made as a result of any inaccuracies, discrepancies or omissions contained therein.

E2. DEFINITIONS

For the purpose of this contract the following shall apply:

(a) **Employer**" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract 2015 and it shall have the exact same meaning as "**client**" as defined in the Construction Regulations 2014. "**Employer**" and "**client**" are therefore interchangeable and shall be read in the context of the relevant document.

(b) "**Contractor**" wherever used in the contract documents and in this specification, shall have the same meaning as "**Contractor**" as defined in the General Conditions of Contract 2015.

In this specification the terms "**principal contractor**" and "**contractor**" are replaced with "**Contractor**" and "**subcontractor**" respectively.

For the purpose of this contract the **Contractor** will, in terms of OHSA 1993, be the mandatary, without derogating from his status as an employer in his own right.

(c) "**Employer's Agent**" where used in this specification, means the Employer's Agent as defined in the General Conditions of Contract 2015. In terms of the Construction Regulations the Employer's Agent may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

E3. TENDERS

This Health and Safety Specification forms an integral part of the Contract and Tenderers are required to use it during the tender phase for pricing the preparation of a project specific Health and Safety Plan prior to commencing any work and for pricing the costs of ensuring compliance thereto during construction. Tenderers must forward a copy of this Specification to all other persons or organisations that may be submitting prices to the Tenderer during the tender stage to enable them to include the cost of preparing their own Health and Safety Plan, relevant to their particular operation, and for compliance with the health and safety requirements during construction. Payment items are included in the Schedule of Quantities for compliance with the Occupational Health and Safety Act and Construction Regulations and with this Specification.

Tenderers are required to complete Form J 'Contractor's Health and Safety Declaration' in section T2.2 'Returnable Schedules'.

Failure to submit the foregoing with his tender and/or to provide realistic rates for relevant payment items will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely, in accordance with the Act and Construction Regulations and his tender shall be deemed non-responsive.

E4. NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

Where the contract meets the requirements of Construction Regulation 4, the Contractor shall, before commencement of the work and in accordance with the requirements of Regulation 4, notify the Provincial Director of the Department of Labour of the intention to carry out the construction work, using the pro forma form included as Annexure 2 to this Health and Safety Specification.

A copy of the notification form must be kept on site, available for inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees, representative trade unions and any other persons on the site. A copy of the notification form shall also be kept on the health and safety file, and a further copy shall be forwarded to the Employer for his records.

E5. HEALTH AND SAFETY PLAN

Before commencement of any construction work, the Contractor shall prepare a project specific Health and Safety Plan complying with the requirements of Construction Regulation 7(1)(a) and this Health and Safety Specification.

The Health and Safety Plan must include a risk assessment performed and recorded in writing by a competent person as required in terms of Construction Regulation 9. The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards identified.

The Health and Safety Plan shall be available on site for inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees, representative trade unions, and health and

safety representatives and committee members, and must be monitored and reviewed periodically by the Contractor.

E6. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

E6.1 Appointments

The Contractor shall appoint in writing all employees.

The Contractor shall appoint in writing all subcontractors, and such appointments shall be in compliance with the requirements of Construction Regulation 7.

E6.2 Health and safety induction training

No person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site.

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo health and safety induction training by a competent person before commencement of construction work in compliance with Construction Regulations 7(5) and 9(3) and (4).

The Contractor shall ensure that all visitors to the construction site undergo health and safety induction and are provided with the necessary personal protective equipment in compliance with Construction Regulation 7(6).

E6.3 Medical certificate of fitness

The Contractor shall ensure that every employee, including subcontractors and their employees, has a valid medical certificate of fitness issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable.

E7. APPOINTMENT OF SAFETY PERSONNEL

E7.1 Construction manager

Refer to Construction Regulation 8(1), (2), (3) and (4).

The Contractor shall appoint a full-time **Construction Manager** with the duty of managing all the construction work on the site, including the duty of ensuring occupational health and safety compliance.

The Contractor may also have to appoint one or more **assistant construction managers** to assist the Construction Manager where justified by the scope and complexity of the works.

E7.2 Construction health and safety officer

Refer to Construction Regulation 8(5) and (6).

Taking into consideration the size of the project and the dangers, hazards or risks that can be expected, the Contractor shall appoint in writing a full-time or part-time **construction health and safety officer** to assist in the control of all health and safety related aspects on the site. The construction health and safety officer shall be registered as required by the Chief Inspector of the Department of Labour and shall have the necessary competence and resources to perform his/her duties diligently.

E7.3 Construction supervisor

Refer to Construction Regulation 8(7), (8), (9) and (10).

The Contractor shall appoint a **construction superintendent** responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

The Contractor may also have to appoint one or more competent employees to assist the construction superintendent where justified by the scope and complexity of the works.

E7.4 Health and safety representatives

In terms of **Sections 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 50 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery, etc. on a regular basis, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

E7.5 Health and safety committee

In terms of Section **19 of the Act (OHSA 1993)**, the Contractor (as employer) shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

E7.6 Competent persons

The Contractor shall appoint in writing designated competent employees and/or other competent persons as required by the Act and Regulations. Such appointments shall be in accordance with the relevant applicable sections of the Act and Regulations as determined by the requirements of the contract.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work in all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities for compliance with **all** requirements of the Construction Regulations.

E8. RECORDS AND REGISTERS

The Contractor is bound to keep records and registers related to health and safety on site as required by the relevant applicable sections of the Act and Regulations as determined by the requirements of the contract. Such records and registers shall be available for periodic inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees and representatives of trade unions.

E9. CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatary of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) in terms of C1.4 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993', to confirm his status as mandatary (employer) for the contract under consideration.

***The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations*.**

E10. MEASUREMENT AND PAYMENT

It is a condition of this contract that contractors who submit tenders for this contract shall make provision in their various tendered rates and prices for all costs related to the health and safety measures required in terms of the Act and Regulations during the construction process.

(a) Safety appointments

No separate additional payment will be made to cover the costs related to persons appointed as required in terms of the Act and Regulations to fulfil the various health and safety functions. Such persons include the Construction Manager, any assistant construction managers, the construction health and safety officer, the construction superintendent, any assistant construction superintendents, health and safety representatives, health and safety committee members and competent persons, all as referred to in subclauses E7.1 to E7.6 above. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such persons.

(b) Records and registers

The keeping of records and registers related to health and safety on site as described in clause E8 above shall be regarded as a normal duty of the Contractor for which payment shall be deemed to be included in the Contractor's various tendered rates and prices, and for which no separate additional payment will be made except to the extent provided in item B13.02 of the Schedule of Quantities.

(c) Medical certificates

No separate additional payment will be made to cover the costs related to obtaining the medical certificates of fitness required for every employee, including subcontractors and their employees, issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such medical certificates.

ANNEXURE 2 (to OHSA 1993 Health and Safety Specification)

To: The Provincial Director, Department of Labour, ...

ANNEXURE 2

OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(Regulation 4 of the Construction Regulations, 2014)

NOTIFICATION OF CONSTRUCTION WORK

1. (a) Name and postal address of Contractor:

.....

(a) Name and telephone number of Contractor's contact person:

.....

2. Contractor's compensation registration number:

3. (a) Name and postal address of Employer:

.....

.....

(b) Name and telephone number of Employer's contact person or agent:

.....

4. (a) Name and postal address of designer(s) for the project:

.....

.....

(b) Name and telephone number of designer's(s') contact person(s):

.....

.....

5. Name and telephone number of Contractor's Construction Manager on site appointed in terms of regulation 8(1):

.....

6. Name(s) of Contractor's assistant construction manager(s) on site appointed in terms of regulation 8(2):

ANNEXURE 2 - Continued

7. Exact physical address of the construction site or site office:

8. Nature of the construction work:

.....

.....

9. Expected commencement date:

10. Expected completion date:

.....

11. Estimated maximum number of persons on the construction site:

Total: ..... Male: ..... Female:

.....

12. Planned number of subcontractors on the construction site accountable to Contractor:

.....

13. Name(s) of subcontractors already selected:

.....

.....

.....

....

Contractor **Date**

....

Employer's Agent (where applicable) **Date**

....

Employer **Date**

- THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.

C3.3 PARTICULAR SPECIFICATIONS

PART F: REQUIREMENTS OF THE EXPANDED PUBLIC WORKS PROGRAMME (EPWP)

PART F: REQUIREMENTS OF THE EXPANDED PUBLIC WORKS PROGRAMME (EPWP)

F1. INTRODUCTION

The Expanded Public Works Programme (EPWP) is a multi-sectoral government initiative to create jobs. In the case of the infrastructure sector, existing government expenditure is realigned using labour intensive technologies to create job opportunities. This involves the use of plant and labour, where labour is preferred and plant is used appropriately.

The Ngwathe Local Municipality is in the process of intensifying EPWP activities by implementing National Youth Service (NYS) programmes on projects undertaken by the Department.

F2. NATIONAL YOUTH SERVICE (NYS)

F2.1 The National Youth Service (NYS) Programme

The National Youth Service (NYS) Programme aims to train young people and provide them with practical work experience. The young people will be allocated tasks by the Contractor that will assist the Contractor with the execution of the contract.

F2.2 Applicable labour laws

The work to be undertaken on this contract by unskilled or semi-skilled participants under the National Youth Service (NYS) programme shall be implemented in accordance with the Ministerial Determination, Special Public works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R63 of 4 May 2012.

The aforementioned Government Notice No. R63 contains the standard terms and conditions for participants employed in elementary occupations on a Special Public Works Programme. These terms and conditions do not apply to persons employed in the supervision and management of a Special Public Works Programme.

Furthermore, the Code of Good Practice for Employment and Conditions of Work for Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R64 of 4 May 2012 shall also apply to the work to be undertaken on this contract by unskilled or semi-skilled participants under the National Youth Service (NYS) programme.

C3.1.7.1 Payment for the Labour-Intensive Component of the Works:

Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

C3.1.7.2 Applicable Labour Law

The Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment act of 1997 by the Minister of Labour in Government Notice NR347 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. An EPWP contract shall be signed between the contractor and the EPWP participant using the template appended. The contracts shall expire on earlier of (i) 31 March, (ii) at the end of the project; or (iii) completion of the works allocated.

C3.1.7.3 Introduction

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

In this document –

(a) *"department"* means any department of the State, implementing agent or contractor;

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

C3.1.7.4 Terms of Work

(a) Workers on an EPWP are employed on a temporary basis or contract basis.

C3.1.7.5 Normal Hours of Work

(a) An employer may not set tasks or hours of work that require a worker to work–
    a. more than forty hours in any week
    b. on more than five days in any week; and
    c. for more than eight hours on any day.
(b) An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
(c) A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

C3.1.7.6 Meal Breaks

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

C3.1.7.7 Special Conditions for Security Guards

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

C3.1.7.8 Daily Rest Period

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

C3.1.7.9 Weekly Rest Period

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

C3.1.7.10 Sick Leave

(b) Only workers who work for more than 24 hours have the right to claim sick-pay in terms of this clause
(c) A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
(d) A worker may accumulate a maximum of twelve days' sick leave in a year
(e) Accumulated sick-leave may not be transferred from one contract to another contract.
(f) An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
(g) An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
(h) An employer must pay a worker sick pay on the worker's usual payday.

(i) Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
(j) absent from work for more than two consecutive days; or
(k) absent from work on more than two occasions in any eight-week period.
(l) A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorized to issue medical certificates indicating the duration and reason for incapacity.
(m) A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

C3.1.7.11 Maternity Leave

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

C3.1.7.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

(a) when the employee's child is born;
(b) when the employee's child is sick;
(c) in the event of a death of –
(d) the employee's spouse or life partner;
(e) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.7.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –

(a) the employer's name and address and the name of the EPWP;
(b) the tasks or job that the worker is to perform; and
(c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
(d) the worker's rate of pay and how this is to be calculated;
(e) the training that the worker will receive during the EPWP.
(f) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
(g) An employer must supply each worker with a copy of these conditions of employment.

C3.1.7.14 Keeping Records

Every employer must keep a written record of at least the following –

(a) the worker's name and position;
(b) Certified ID copies of all locally employed labour
(c) Signed Contracts between the employer and the EPWP Participants
(d) Attendance Registers for the EPWP Participants
(e) Monthly Reporting Template as per EPWP requirements
(f) in the case of a task-rated worker, the number of tasks completed by the worker;
(g) in the case of a time-rated worker, the time worked by the worker;
(h) Proof of payments made to each worker.

(i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

C3.1.7.15 Payment

(a) An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
(b) A worker may not be paid less than the minimum EPWP wage rate of R…….per day or per task. This will be adjusted annually on the 1st of November in-line with inflation (available CPI as provided by Stats SA six (6) weeks before implementation).
(c) A task-rated worker will only be paid for tasks that have been completed.
(d) An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
(e) A time-rated worker will be paid at the end of each month.
(f) Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
(g) Payment in cash or by cheque must take place –
    a. at the workplace or at a place agreed to by the worker;
    b. during the worker's working hours or within fifteen minutes of the start or finish of work;
    c. in a sealed envelope which becomes the property of the worker.
(h) An employer must give a worker the following information in writing –
    a. the period for which payment is made;
    b. the numbers of tasks completed or hours worked;
    c. the worker's earnings;
    d. any money deducted from the payment;
    e. the actual amount paid to the worker.
(i) If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.
(j) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.1.7.16 Deductions

(a) An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
(b) An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
(c) An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
(d) An employer may not require or allow a worker to –
    a. repay any payment except an overpayment previously made by the employer by mistake;
    b. state that the worker received a greater amount of money than the employer actually paid to the worker; or
    c. pay the employer or any other person for having been employed.

C3.1.7.17 Health and Safety

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

C3.1.7.18 Compensation for Injuries and Diseases

(a) It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
(b) A worker must report any work-related injury or occupational disease to their employer or manager.
(c) The employer must report the accident or disease to the Compensation Commissioner.

(d) An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.1.7.19 Termination

(a) The employer may terminate the employment of a worker for good cause after following a fair procedure.
(b) A worker will not receive severance pay on termination.
(c) A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
(d) A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have the contract terminated. However, the worker may be re-engaged if a position becomes available.
(e) A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

C3.1.7.20 Certificate of Service

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

(a) the worker's full name;
(b) the name and address of the employer;
(c) the EPWP on which the worker worked;
(d) the work performed by the worker;
(e) any training received by the worker as part of the EPWP;
(f) the period for which the worker worked on the EPWP;
(g) any other information agreed on by the employer and worker.

C3.1.7.21 Contractor's default in payment to Labourers and Employees

(a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.
(b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

C3.1.7.22 Provision of Hand tools

(a) The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions

C3.1.7.23 Reporting

The Contractor shall submit monthly returns/reports as specified below:

(a) Signed Master rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
(b) Certified ID copies of all locally employed labour
(c) Signed Contracts between the employer and the EPWP Participants
(d) Attendance Registers for the EPWP Participants
(e) Monthly Reporting Template as per EPWP requirements
(f) Plant utilization returns

Progress report detailing production output compared to the programme of works

F2.3 EPWP-NYS programme manager

The Contractor shall be required to liaise closely with the EPWP-NYS programme manager who is responsible for the recruitment and training of the youths.

F2.4 Persons to be employed under the NYS programme

The EPWP-NYS programme manager shall provide the Contractor with a list of the 40 youths to be employed and the training that each of these 40 youths have received to date, and only these 40 youths shall be employed by the Contractor under the NYS programme.

The Contractor shall effect the employment in two separate 6-month cycles, with the employment of 20 youths for the first 6-month cycle only, followed by the employment of 20 different youth for the second 6-month cycle only.

F2.5 Contract of employment with persons employed under the NYS programme

The Contractor shall enter into a formal contract of employment with each youth employed under the NYS programme, using the pro forma contract of employment attached at the end of this Part F of section 3.3 Particular Specifications.

F2.6 Employment of targeted labour

The Contractor will be contractually obliged to:

(a) employ all participants on the list provided by the NYS-EPWP programme manager;
(b) brief participants on the conditions of employment;
(c) enter into a formal contract of employment with the participants, which contract will form part of the Employment Agreement;
(d) keep personnel files and make copies available to the EPWP-NYS programme manager if and when requested;
(e) ensure that payments to participants are made in accordance with Government Notice No. R63.

The youths employed under the NYS programme shall be paid at the rate of pay for poverty alleviation projects in Free State, as set by the Department of Public Works, and should there be an upward adjustment in the rate the Contractor will be compensated accordingly.

F2.7 Training of youth participants

All youth participants will be placed on an extensive training programme that will include:

(a) an induction into NYS and EPWP;
(b) life skills training;
(c) technical training focusing on a vocational skill to be used on the project (e.g., painting, carpentry, etc.);
(d) entrepreneurship and business skills training.

All training will be arranged by the EPWP-NYS programme manager, with whom the Contractor will be required to work closely to schedule the training sessions so that the timing of the training is aligned with the Contractor's work schedule and his demand for participants with specific skills. The EPWP-NYS programme manager will make full details of the training programme available to the Contractor.

The Contractor shall maintain comprehensive records of the training received by each NYS youth participant throughout the course of the contract, and shall submit to the Employer at each monthly site meeting a summary of the accumulated training received by each NYS youth participant.

The training venue facility to be provided by the Contractor shall be constructed, furnished and fully serviced for the duration of the contract in accordance with section 1400 of the COLTO standard specifications. The facility shall accommodate a class of up to 10 learners and shall comprise the following:

(a)	Lecture room (interior area)	=	24 m^2
(b)	Ablutions (male)	=	6 m^2
(c)	Ablutions (female)	=	6 m^2
(d)	Chairs for learners (individual chairs, with backs)	=	10 off
(e)	Desk area for 10 learners (500 mm width)	=	5 m^2
(f)	Chairs for trainers and management (individual chairs, with backs)	=	3 off
(g)	Table area for trainers and management	=	3 m^2
(h)	220/250 volt power points	=	4 off
(i)	Double 80 watt fluorescent light fittings complete with ballast and tubes	=	4 off

(j)	Single incandescent light fittings complete with 100 watt globes	=	4 off
(k)	Wash hand basins complete with taps and drains	=	2 off
(l)	Fire extinguishers, 9,0 kg, all purpose dry powder type, complete, mounted on wall with brackets	=	2 off
(m)	Air conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	=	2 off
(n)	Voltage stabilizers	=	2 off
(o)	Floodlights complete with poles and 500 Watt minimum globes and controlled by photocells	=	2 off
(p)	White boards (3 m x 1,5 m)	=	1 off
(q)	Venetian blinds	=	6 m^2

F2.8 Contractor's obligations towards persons employed under the NYS programme

Over and above implementing in accordance with Government Notice Nos. R63 and R64 the NYS programme work to be undertaken on this contract, it shall be the responsibility of the Contractor to carry out the following functions with respect to the NYS programme participant participants:

(a) ensure that all participants receive induction on site safety prior to commencing with work on site;
(b) ensure that all participants are covered by the Compensation for Occupational Injuries and Diseases Act, 1993 for as long as they are contracted to the Contractor, and to pay in full to the Compensation Commissioner such amounts as are due in terms of the Act;
(c) implement health and safety procedures with respect to the participants, ensuring that the health and safety regulations are adhered to;
(d) provide all participants with the necessary protective clothing and equipment as required by law for the specific trades in which the participants are involved, in addition to the overalls stipulated for NYS participants;
(e) assist in the assessment of participants with regards to their competencies in their respective trades;
(f) provide overall supervision and day-to-day management of participants;
(g) implement strict quality control to ensure that the work carried out by the participants is of the required standard, and, where necessary, to train and mentor the participants to assist them in achieving the standards required;
(h) ensure that all participants are paid their wages on time through the pre-agreed payment method as stipulated in the beneficiary contract;
(i) provide safe on-site storage facilities for tools and apparel issued to the participants.

F2.9 Apparel and tools for NYS participants

The Employer's Agent will provide each NYS participant with two orange overalls with markings as specified by the EPWP-NYS programme manager.

A list of all apparel and tools to be provided to each NYS participant shall be provided to the Contractor by the EPWP-NYS programme manager after consultation with the training provider and the Contractor.

The Contractor shall provide the NYS participants with all such listed tools and apparel necessary for their on-site work, including appropriate safety apparel, as well as with safe storage facilities on site, the cost of which shall be refunded to the Contractor through the provisional sums included in the Schedule of Quantities for this purpose. The NYS participants shall be responsible for the safe on-site storage of all tools and apparel issued to them, using the storage facilities provided on site by the Contractor.

Certain specified apparel and tools issued to the NYS participants will become the property of the NYS participants after the completion of their cycle of work on the project, in order to enable them to continue to practise their trade on future projects. Such apparel and tools shall be specified and authorised by the Employer's Agent.

F2.10 EPWP-NYS signboard

The Contractor will be required to erect a signboard displaying the EPWP and NYS logos, indicating that this project is part of the EPWP and NYS. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of

Quantities for this purpose.

PROVISION OF STRUCTURED TRAINING

CONTENTS

1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

2 GENERIC TRAINING

2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

2.2 The generic training will inter alia comprise, but not be limited to the following subjects:

Course Description	**Estimated No. Of Trainees**	**Estimated Duration (Days)**
1. Plumbing for construction workers		……
2. Steel fixing		……..
3. Concrete handling, placing and finishing		……
4. Shuttering		……
5. Welding		……

2.3 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

2.4 The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:

(a) The name of the training institution and programme
(b) The manner in which the training is to be delivered.
(c) The numbers and details of the trainers

Such details shall be entered on or attached to Form T45 included herein.

2.5 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

(a) A suitable venue with sufficient furniture, lighting and power.

(b) All necessary stationery consumables and study material
(c) Transport of the students (as necessary)
(d) Payment of wage to all trainees during the classroom training at a rate equal to the minimum wage as set in the Ministerial Determination for the Expanded Public Works Programme on an annual basis.
(e) relevant PPE required for the project works
(f) Additional supervision of learners during the practical learning stages of the works. Wage for the learners during this stage of the training will be paid through the outputs.

2.6 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.

.2.7 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

2.8 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form is illustrated in Part C132 of this document (form 2.2)

PROVISION OF EPWP DESIGNED OVERALLS TO YOUTH PARTICIPANTS

F4.02 Supply 2 x EPWP branded overalls to each youth worker ……..…….……Unit: PC.Sum

Youth worker overalls should be orange (top and bottom) as per EPWP branding specification with the exception of Correctional Services contracts where the overalls should be blue (top and bottom). **A minimum of two overalls per youth worker should be supplied**.

F4.02 (a) Profit and attendance…… Unit: %

An amount has been provided in the Schedule of Quantities under sub item F4.02 for the supply of EPWP designed overalls as per the EPWP branding specification provided by the EPWP unit, and the Service Provider. The Service Provider will have sole authority to spend the amounts or part thereof. The tendered percentage under sub items F4.02 (a) will be paid to the contractor on the value of each payment pertaining to the supply of overalls and hard hats to cover his expenses in this regard.

3 ENTREPRENEURIAL SKILLS TRAINING

3.1 Small contractors and subcontractors will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.

3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for in the contract and where required by the engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.

3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Industry Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.

3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.

3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor.

3.6 The structured training will comprise out of the following as decided by the Employer:

Course Description	**Estimated Duration (Days)**
1. Basic Business Principles	……
2. Basic Supervision	……..
3. Running A Business	……
4. Legal Principles	……
5. Achieving Standards	……

3.7 The contractor shall provide with his tender, full details of the structured training programme, which he intends to implement, which details shall include the following:

(a) The name of the training institution and programme
(b) The various aspects of each type of training comprised in the programme
(c) The manner in which the training is to be delivered
(d) The numbers and details of the trainers to be utilised.

Such details of the proposed entrepreneurial training programme shall be entered on or attached to form T46 of the forms to be completed by the tenderer.

3.8 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:

(a) A suitably furnished venue (if required) with lighting and power.
(b) All necessary consumables, stationery and study material
(c) Transport of the subcontractors (as necessary)

.3.9 All entrepreneurial training shall take place within normal working hours.

3.10 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

3.11 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor. An example of the form to be used is illustrated in Part C132 of this document, (form 2.2)

4. IN SERVICE TRAINING

4.1 The contractor shall in addition to the structured (accredited) training as provided for in Part C of this document implement an in-service training programme, from the commencement of the contract, in which the various skills required for the execution and completion of the works are imparted to the labourers engaged thereon, in a programmed and progressive manner. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

4.1.1 Details of in-service training

(i) The contractor shall attach to applicable returnable form the basic details of his proposed inservice training programme, which details shall inter alia include the following:

- the details of training to be provided
- the manner in which the training is to be delivered
- the number and details of trainers to be utilised.

(ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.

(iii) The contractor shall provide on site, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.

(iv) All labourers shall be remunerated in respect of all time spent undergoing training.

(v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:

- the name of the contractor
- the name of the employee
- the name of the project/contract
- the nature of the work satisfactorily executed by the worker and the time spent thereon
- the nature and extent of training provided to the worker
- the dates of service.

(vi) The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities. The performance of the contractor in providing in-service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.

4.1.2 Lead time for training

The training of labour as specified shall, as far as possible, take place before commencement of each activity and the contractor shall take into account in his programme the lead-time he requires for such training. All training herein specified shall be deemed to be a construction activity and a non-negotiable condition of the contract".

All formal training is to be documented in terms of the National/Provincial submission forms, and accompanied by an attendance register for the applicable days.

5 MEASUREMENT AND PAYMENT

	ITEM	UNIT
	E12.05 Provision for training	
(a)	Generic skills Provisional (list training courses)	sum
(b)	Entrepreneurial skills Provisional	sum

(c)	Handling cost and profit in respect of sub-item E12.05(a) and (b) above	percentage (%)
(d)	Training venue (only if required)	lump sum
(e)	Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (provisional sum)	sum
(f)	Additional supervision during practical training	lump sum

The prime cost sums are provided to cover the actual costs (including wages, tools and PPE) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item 4.1(c) is a percentage of the amount actually spent under sub-items 4.1(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for 4.1(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the provision of all the accredit training as specified in the document.

The lump sum tendered for 4.1 (e) shall include full compensation for the provision of additional supervisory staff to manage the output generated from the learners during practical training.

F3. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

F3.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. ***The data that is required to be kept and maintained for each project includes:***

F3.1.1 Beneficiary data

A beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:

(a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).

(b) Beneficiary profiles – nationality, gender, age, education level and disability status.

(c) Monthly work data for participants – daily wage to be received, number of calendar days training attended and number of calendar days worked.

F3.1.2 Project work data

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

(a) Daily attendance register – register for each day showing all the participants that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.

(b) Summary of monthly attendance.

F3.1.3 Project payment data

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

(a) Payment register – this is a list of the participants showing the wages paid to each participant, and signed off by each participant as proof of receipt and acceptance of payment. Information on this register must include the name of the participant, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

Alternatively,

(b) Bank records showing the transfers to each participant account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the participant, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.

F3.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

(a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).

(b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.

(c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.

(d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).

(e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

PROVINCE: FREE STATE
PROJECT NAME:
PROJECT NUMBER:

REPORT DATE:
: Civil, Mechanical and Electrical Engineering Works

Educational Levels – use the codes (1; 2; 3) on the excel spreadsheet
Note

1. **Unknown**
2. **No Schooling**
3. **Grade 1-3 (Sub A – Std 1)**
4. **Grade 4 (Sub 2) ABET 1**
5. **Grade 5-6 (Sub 3) ABET 2**
6. **Grade 7-9 (Std 5-6) ABET 3**
7. **Grade 8-9 (Std 7) ABET 4**
8. **Grade 10-11 (Std 8-9)**
9. **Grade 12 (Std 10)**
10. **Post Matri**

Job Description

Clerical	**A**
Labourers	**B**
Managerial	**C**
Semi-Skilled	**D**
Skilled	**E**
Supervisor	**F**

Date:

	First Name	Initial	Last Name	I.D Number	Gender	Contact Number	Disability	Education	Start Date	Project Period	Job description note	Number of days worked	Number of labour hrs	Rate per day	Total Wage Paid
Youth Women															
Adult Women															
Youth Male															
Adult Male															

PRO FORMA

EXPANDED PUBLIC WORKS PROGRAMME
CONTRACT OF EMPLOYMENT BETWEEN

CONTRACTOR
Name:
Address:
ID:

AND

PARTICIPANT
Name:
Details:
ID:

1. I am pleased to confirm that you have been appointed to work on a task based employment contract within a Expanded Public Works Programme (EPWP) project. Within this employment contract you will undertake numerous groups of tasks.
2. This employment contract must be read in conjunction with the standard terms and conditions of employment on EPWP attached herewith.
3. The project where you will be employed is located at…….....……..
4. This employment contract will start on …….....…….
5. You must be aware that this employment contract is a limited term contract and not a permanent job. This employment contract may be terminated for any one of the following reasons:
   a) The contractor does not get additional contracts from the EPWP.
   b) Funding for the programme in your area comes to an end.
   c) You repeatedly do not perform in terms of the tasks set out in your work programme.
   d) You have worked a maximum of 24 months within a 60 month cycle.
6. You will be employed as a.....within the team.
7. While you are working you will report to …….....……..
8. Payment
   a) You will be paid a fixed amount of R….....for completing a fixed amount of work.
   b) The amount of work required for the agreed rate of pay will vary from task to task. You will be informed at the beginning of each task or group of tasks how much work you are expected to complete per day.
   c) You will only be paid for work completed.
9. In addition to the conditions above, all the terms and conditions of employment on EPWP apply to your employment. If you breach any of these terms your contract may be terminated.
10. Signatures:

Signed on this ……..... day of …….....……...

Contractor: …… Date: ……...

Participant: …… Date: ……...

Witness: …… Date: ……...

C3.3 PARTICULAR SPECIFICATIONS

PART G: PROCUREMENT

G3.3.1 Sub-Contracting

Notwithstanding other requirements of the Contract, the Contractor shall not sub-contract any part of the Contract without the prior consent of the Engineer, which consent shall not be unreasonably withheld.

G3.3.2 Appointment of Sub-Contractors

Any consent granted in terms of C3.3.1 or appointment of the sub-contractor in terms of G3.3.1 or G3.3.2 shall not imply a contract between the Employer and the sub-contractor, or a responsibility or liability on the part of the Employer to the sub-contractor and shall not imply a contract between the Engineer and the sub-contractor, or a responsibility or liability on the part of the Engineer to the sub-contractor and shall not relieve the Contractor from any liability under the Contract and he (the Contractor) shall be liable for the acts, defaults and neglects of any sub-contractor, his agents or employees as fully as if they were the acts, defaults or neglects of the Contractor, his agents or employees.

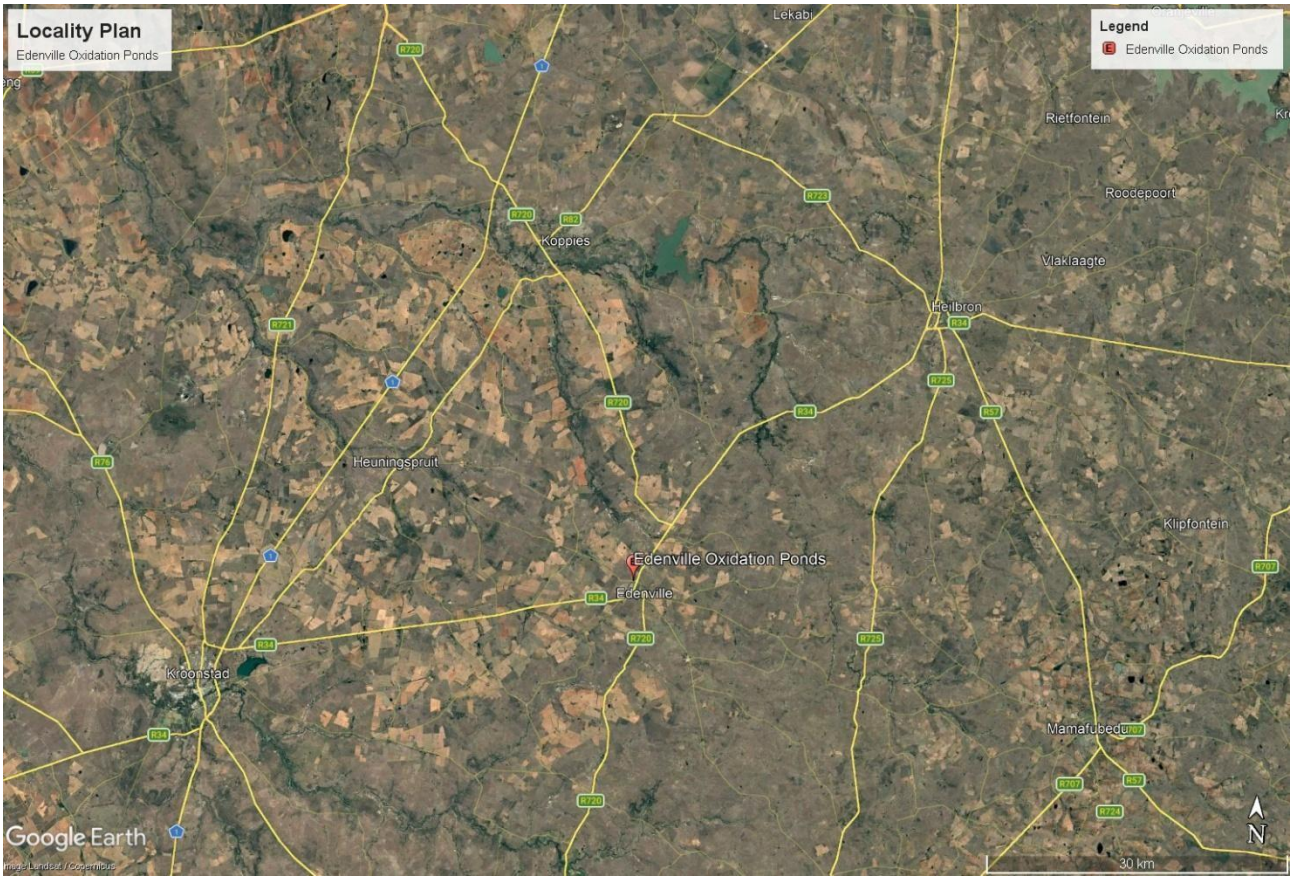
G3.3.3 Payment of Sub-Contractors

Before the Engineer, in terms of Clause 12 [obligation of the parties] of the Joint Building Contracts Committee® - NPC Principal Building Agreement Edition 6.2 – May 2018, sub-clause 12.1.13 The employer shall: At the employer’s discretion make direct payment where the contractor has failed to honour a n/s subcontract payment advice after notice of default by a subcontractor to the principal agent, the employer and the contractor [14.5 and/or 15.5]

C4: SITE INFORMATION

C4: SITE INFORMATION

C4.1. Locality Plan



C4: SITE INFORMATION

C4.2. Example of Contract Signboard Details

C4: SITE INFORMATION

C4.3. Drawings

A soft copy of all drawings will be sent to tenderers via a link