



TENDER DOCUMENT

BID No: DHS-233-24-MP

**APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER
INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER OF
SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY**

ISSUED BY	PREPARED BY
EMPLOYER	CLIENT REPRESENTATIVE
HUMAN SETTLEMENTS MPUMALANGA PROVINCE PRIVATE BAG X11328 MBOMBELA 1200	SEROADIME CONSULTING ENGINEERS CC 43 MARLOTH STREET MBOMBELA 1200
Tell: +27 13 766 6088 Fax: +27 13 766 8441	Tell: 013 753 3713/ 078 788 7607 Fax: 086 539 7515

CIDB GRADING: 7CE or Higher

REGISTERED NAME OF TENDERER: _____

TENDERED AMOUNT (INCL. VAT): _____

CLOSING DATE: **20 MAY 2024**

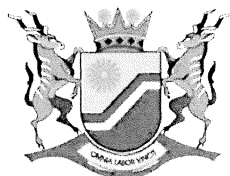
TIME: **12:00**

TENDER AND CONTRACT

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TENDERING PROCEDURES



T1.1: TENDER NOTICE AND INVITATION TO TENDER

DEPARTMENT OF HUMAN SETTLEMENTS MPUMALANGA PROVINCE

BID NO: DHS-233-24-MP

PROJECT NAME

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

The Department hereby invites reputable and well experienced service providers to submit tenders for the below-mentioned projects. The services providers must comply with the VAT Act. Tender documents will be available on e-tender, department website and also at Departmental Offices from 10 April 2024 at cashiers point during office hours upon payment of a non-refundable printing fee of R 100.00.

Ref No	Description	Contact Person	Valuation Criteria	Briefing Session	CIDB Grading	Closing Date
DHS-233-24-MP	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY			Date: 24 April 2024 Time: 11:00 Venue: 3 rd Floor Technical Services Boardroom, Emalahleni Local Municipality	7CE PE	20 May 2024 @ 12H00

Sealed envelopes must be addressed to: Head of Department,
As stated on the tender bulletin

Marked with the correct bid number or deposit it in the '**TENDER BOX**' situated as stated on the **tender bulletin no later than 12:00 on the 17 May 2024**.

The following **compulsory documents** must be accompanied with the tender, and failure to provide such documentations shall constitute automatic disqualification: Original Valid Tax Clearance Certificate or SARS Pin, Company Certificate, Municipal Account not in arrear for more than 90 days and Not older than three months and proof of CSD registration.

Bidders who do not attend the compulsory briefing will be automatically disqualified. **Only bidders who are registered with CSD will be considered.**

A preferential point system shall apply whereby this contract will be allocated to a bidder in accordance with the **Preferential Procurement Policy Framework Act, No 5 of 2000** and as defined in the conditions of bid in the bid document, read in conjunction with the Preferential Procurement Regulations 2017, where 80 points will be allocated in respect of price and 20 points in respect of B-BBEE status level of contribution.

Mpumalanga Department of Human Settlements reserves the right to accept and/or not to accept the lowest priced or any other tender. **No late, telephonic, facsimile or e-mail tenders will be accepted.**

According to the Supply Chain Regulations issued by the Minister of Finance in terms of Section 168 of the Municipal Finance Management Act, Act 56 of 2003, persons within the organs of the state, like Councillors, and other elected representatives, full time employees and other directors of the public and municipal entities are prohibited from being eligible to bid or be awarded a contract to provide any services to the municipality.

If you do not hear from the Department within 90 working days, please consider your tender unsuccessful.

Procurement Enquiries: MS R.S MOTSILANYANA

Tel: 013 766 6426/6819

Technical Enquiries: MR. T.S Mashegoana

Email: tmashegoana@yahoo.com

Employer

**MPUMALANGA DEPARTMENT OF HUMAN SETTLEMENTS
Private Bag X11328,
MBOMBELA,
1200**

T1.2 TENDER DATA

The conditions of tender are those contained in the latest edition of SANS 10845-3, *Construction Procurement – Part 3: Standard conditions of tender*.

SANS 10845-3 makes several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the provisions of SANS 10845-3.

Each item of data given below is cross-referenced to the clause in SANS 10845-3 to which it mainly applies.

Clause number TENDER DATA

F.1.1 The employer is **Mpumalanga Department of Human Settlements**

F.1.2 The tender documents issued by the employer comprise:

(a) The Tender Document consists of the following:

TENDER

T1: Tendering Procedures

T1.1: Tender Notice and Invitation to Tender

T1.2: Tender Data

T2: Returnable Documents

T2.1: List of Returnable Documents

CONTRACT

Part 1: Agreements and Contract Data

C1.1: Form of Offer and Acceptance

C1.2: Contract Data

C1.3: Forms of Security

Part 2: Pricing Data

C2.1: Pricing Instructions

C2.2: Bill of Quantities

Part 3: Scope of Work

C3: Scope of Work

Part 4: Site Information

C4: Site information

Drawings

The Tender Document and the drawings shall be obtained from the Employer or his authorized representative at the physical addresses stated in the Tender Notice, upon payment of the deposit stated in the Tender Notice.

F.1.4 The employer's agent is:

Name: SEROADIME CONSULTING ENGINEERS CC
Address: 43 MARLOTH STREET
NELSPRUIT
1200
Tel: 013 753 3713
Fax: 086 539 7515
E-mail: tmashegoana@yahoo.com

The language for communications is English

F.2.1 Eligibility

Only those tenderers who satisfy the following eligibility criteria and who provide the required evidence in their tender submissions are eligible to submit tenders and have their tenders evaluated:

Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a 7CE class of construction work, are eligible to have their tenders evaluated.

Joint ventures are eligible to submit tenders provided that:

1. every member of the joint venture is registered with the CIDB;
2. the lead partner has a contractor grading designation in the 7CE class of construction work; and
3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for an 7CE class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

The following tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to have their tenders evaluated:

- a) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for an 7CE class of construction work; and
- b) contractors registered as Potentially Emerging enterprises with the CIDB who are registered in one contractor grading designation lower than that required in terms of a) above and who satisfy the following criteria:
 - 1) the employer is satisfied that such a contractor has the potential to develop and qualify to be registered in that higher grade as determined in accordance with the provisions of the *CIDB Specification for Social and Economic Deliverables in Construction Works Contracts*; and

- 2) the employer agrees to provide the financial, management or other support that is considered appropriate to enable the contractor to successfully execute that contract.

Sub-contracting requirement (PPPP Framework Act 2005) 14.5

Sub-contracting as a condition of tender for procurement above R30 million:

- The regulation states that for contract above R 30 million, an organ of state must apply subcontracting to advance designated groups.
- Tenderers or contractors must submit proof of subcontracting arrangement between the main tenderer and the subcontractor.
- Proof of subcontracting arrangement may include a subcontracting agreement between main tenderer and the subcontractor.
- Tenders that do not meet subcontracting requirements are considered as being not acceptable tenders and must be disqualified and may not be considered for further evaluation or award.

Local Content

Only bidders, meeting the stipulated minimum threshold for local production and content will be considered in line with Regulation 8(2) of the Municipal Supply Chain Management Regulations and National Treasury Circular 69. Bidders must declare local content value as per DTI codes on SBD 6.2 Local Content together with Local Content Declaration Templates

Site visit and clarification meeting

The arrangements for a compulsory site inspection visit and clarification meeting are as stated in the Tender Notice and Invitation to Tender.

Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued and tenders will be received only from those tendering entities appearing on the attendance list.

F.2.10 Pricing the tender offer

(a) Value Added Tax

The Valued Added Tax (VAT) rate shall be 15% or as otherwise provided for by legislation.

(b) The successful Tenderer shall be required to produce a VAT invoice that shall only be prepared once measurements and valuations for work done in terms of the contract offer have been agreed with the Employers agent and a certificate of payment issued.

(c) Payment of VAT to non-VAT vendors shall be processed from the month in which the Tenderers liability with the South African Revenue Services is effective.

F.2.11 Alterations to documents

A Tender offer shall not be considered if alterations have been made to the forms of tender data or contract data (unless such alterations have been duly authenticated by the Tenderer) or if any particulars required therein have not been completed in all respects.

F.2.12 Alternative tenders

No alternative tender offers will be considered.

If a tenderer wishes to submit an alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the employer's standards and requirements, the details of which may be obtained from the employer's agent.

Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable

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the employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.

Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.

The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the employer's costs in confirming the acceptability of the detailed design.

F2.13 Submitting a Tender Offer

F.2.13.1 The Tenderer may not make an offer for only part of the services as defined in the Scope of Work.

F.2.13.3 Tender offers shall be submitted as an original only.
Parts of each tender offer communicated on paper shall be submitted as original, plus 0 copies.
Under no circumstances whatsoever may the tender forms be retyped or redrafted.

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: As mentioned on the tender advertisement

F.2.15 Closing time

The closing time for submission of Tender Offers is: **12h00 on 20 May 2024, no late tenders will be accepted.** Telephonic, telegraphic, telex, electronic or emailed tenders will not be accepted.

F.2.16 Tender Offer Validity

The tender offer validity period is **12 weeks**

F.2.23 Certificates

The following original or certified certificates must be provided with the tender:

- Record of Addenda to Tender Documents
- Proposed amendments and qualifications
- Preferencing Schedule: Broad Based Black Economic Empowerment Status
- Compulsory Declaration
- Declaration and returnable documents
- Certificate of Attendance at a Tender Site Meeting
- Certificate of Authority of Joint Ventures/ Close corporations/ Partnership/ Company/ Sole proprietor (Certified Copies of the Identity Documents in the Case of sole proprietor)
- Registration Certificates of Entities – Joint Ventures/ Close corporations/ partnership/ Company/ Sole Proprietor
- Schedule of Tenderer's Experience
- Schedule of Key Personnel (Together with complete CV as per attached template, with **certified** qualifications)
- Format of Curriculum Vitae (CV)
- Schedule of Sub-Contractors
- Schedule of plant and equipment
- Copy of Workmen's Compensation Registration Certificate (or proof of payment of contributions in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993)

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- BBBEE Certificate / Sworn Affidavit
- Form of Intent (**project specific**) to offer a Performance Guarantee
- A copy of Tax Clearance Certificate issued by the South African Revenue Services and PIN valid for three 3 months
- Execution Programme
- Contractor's Health and Safety Declaration
- Contractor's Safety Plan
- Proforma Notification form in terms of the Occupational Health and Safety Act 1993, Construction Regulations, 2014.

F.3.4 Opening of Tender Submissions

F.3.4.2 Tenders will be opened in public soon after closing time mentioned above and recording of received documents at the Tender office. Tenderers' names and total prices where practical will be read out.

F.3.5 Two-Envelope System

A two-envelope procedure will **not** be followed.

F.3.11 Evaluation of Tender Offers

Tenders will be evaluated for Functionality. Tenderers who qualify for Functionality will be evaluated further for Price and Preference only. Points for Functionality will not contribute to further evaluation. Tenderers who do not qualify will not be evaluated further.

Functionality will be scored out of 100 points. A Tenderer who scores less than **70 out of 100 points** for Functionality will automatically be disqualified.

The 80/20 evaluation criteria will be used where Price will be allocated 80 points and Preference will be scored out of 20 points.

F.3.11.1 The procedure for evaluation of responsive Tender Offers will be Method 4: Financial Offer, Functionality and Preferences. The responsive tender with the highest total points as defined below is the preferred tender

F.3.11.2 The financial offer will be scored in terms of Formula 2, Option 1 of Table F.1 of SANS 294: 2004, which reads as follows:

$$Nfo = W1 \times A$$

Where:

Nfo = number of tender evaluation points awarded for the financial offer;
W1 = 90 points for rand value more than R50 000 000;
A = $[1-(P-Pm)/Pm]$ (a negative A will be regarded as unrealistically high)

Where

Pm = the rand value of the lowest comparative offer;
P = the rand value of the Tender Offer under consideration.

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F.3.11.3 (a) Functionality will include the following:

(Refer to **FORM A14: Competence Achievement Schedule** in the Returnable Schedules)

1. Company Experience	30
2. Construction Team Key Personnel	30
3. Plant and equipment	20
4. Bank Rating	10
5. Locality	10

COMPETENCE ACHIEVEMENT SCHEDULES

1. Company Experience – 30 points

Company Experience	Returnable schedule Ref	Points
A) Provide the names of current/recent contactable references for each project that the bidder has executed in the last five years. A maximum of five (5) projects of similar scope and complexity (minimum pipe diameter 200mm). NB: No points will be allocated without certified appointment letters and completion certificates	Competence Achievement Schedules FORM A14 Table A1 (Also in line with FORM A8)	Points per project: > 20mil = 6 points 10 – 20mil = 4 points 5 – 10mil = 2 points < 5mil = 0 points Only five projects to be considered. Maximum of 30 points

Evaluation should be based on the five largest projects **of a similar nature**, executed in the past five (5) years. Only experience from the tendering entity, and not by staff members, shall be considered.

Tenderers are required to only attach five (5) appointment letters and completion certificates. If tenderer attaches more than five (5) projects the evaluation will only be on the first five (5) for which appointment letter and completion certificate is submitted.

2. Construction Team Key Personnel – 30 points

	QUALIFICATIONS	EXPERIENCE
Project Manager (max 10 points)	Minimum of relevant degree/ diploma: 4 points Professional registration: 1 point SACMP registration: 1 point	At least 5 years experience: 4 points
Site Agent (max 10 points)	Minimum of relevant degree/ diploma: 5 points	At least 5 years experience: 5 points
Health and Safety Officer (max 5 points)	Health and Safety Certificate or SAMTRAC: 3 points	At least 3 years experience: 2 points
Site Foreman (max 5 points)	N6 in Civil or equivalent: 3 points	At least 3 years experience: 2 points

Experience	Returnable schedule Ref	Points
Provide detailed CVs and certified qualifications for all Key Personnel for each category stated above.	FORM A9.2 format of Curriculum Vitae of Key Personnel	30 (max)

N.B Points to be allocated based on the CV's provided. The appointed contractor is to provide such personnel as attached or one with equivalent qualifications and experience. Failure to do so will result to termination of contract.

3. Plant and Equipment – 20 points

Plant	Tendered Goal
2 x Tipper Trucks (6 m³)	8
1 x Excavator (PC 200 or larger)	3
1 x Water Tank (9 000 litre or larger)	3
1 x TLB	3
1 x Doubled drum walk behind compactor or plate compactor	3

Tenderer to attach relevant documentation proving ownership of the plant to achieve 100 % of points or letter of intent for hire in order to achieve 50% of points.

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Plant and Equipment	Returnable schedule Ref	Points
Provided detailed list of plant and equipment currently owned and certified proof of ownership must be attached for each plant and equipment stated in order to achieve 100% of points Or Provided letter of intent to lease plant and the letter must state the name of the Service provider and the available plant/equipment in order to achieve 50% of points	FORM A11: Schedule of Plant & Equipment	20 (max)

4. Financial Reference – 10 points

	Returnable schedule ref	Bank Rating	Score
Adequate – Good for the amount strictly in accordance with business	TABLE A2: FINANCIAL REFERENCES	A-B	10
Poor – Reasonable business risk (additional motivation will be *required prior appointment)		C	8
Inadequate and risky		D	5
Contractor's letter of intent from a registered financial institution of guarantor in the amount of 10% for surety		E	0

Ability of the contractor to finance working capital requirements before the first claim is paid by the client

(The bank letter submitted should not be older than 3 months).

5. LOCALITY – 10 POINTS

The bidder must attaché proof of locality of the company in order to get maximum point. (The municipal rates and taxes should not be older than 3 months) or the lease of agreement must be attached

	TENDERED GOAL
WITHIN THE DISTRICT	10
IN MPUMALANGA	5
IN SOUTH AFRICA	3
SUB-TOTAL:	10 (max)

10. SUMMARY OF THE COMPETENCE ACHIEVEMENT SCHEDULE (FUNCTIONALITY)

		MAXIMUM POINTS TO BE ALLOCATED
1	Company Experience	30
2	Construction Team Key Personnel	30
3	Plant and Equipment	20
4	Financial References	10
6	Locality	10
	SUB-TOTAL:	100

F.3.13 Acceptance of Tender Offer

F.3.13.1 Tender offers will only be accepted if:

- a) the tenderer is registered on the Central Supplier Database (CSD) for the South African government (see <https://secure.csd.gov.za/>) unless it is a foreign supplier with no local registered entity
- b) the tenderer is in good standing with SARS according to the Central Supplier Database;
- c) the tenderer submits a letter of intent from an approved insurer undertaking to provide the Performance Bond to the format included in Part C1.3 of this procurement document
- d) the tenderer is registered with the Construction Industry Development Board (CIDB) in an appropriate contractor grading designation;
- e) the tenderer or any of its directors/shareholders 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;
- f) the tenderer has not:
 - i) abused the Employer's Supply Chain Management System; or
 - ii) failed to perform on any previous contract and has been given a written notice to this effect;
- f) the tenderer has completed the Compulsory Declaration and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process;
- g) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer;
- h) the employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2003, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.

F.3.18 The number of paper copies of the signed contract provided by the employer is **ONE**

Annex: Standard Conditions of Tender

(As contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement)

F.1 General

F.1.1 Actions

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

F.1.2 Tender Documents

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

F.1.3 Interpretation

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

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

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

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

F.1.4 Communication and employer's agent

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

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

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

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

F.2 Tenderer's obligations

F.2.1 Eligibility

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

F.2.2 Cost of tendering

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

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

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

F.2.9 Insurance

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

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F.2.10 Pricing the tender offer

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

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

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

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

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

F.2.13 Submitting a tender offer

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

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

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

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

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

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

PART T1.2: TENDER DATA
BID No: DHS-233-24-MP

F.2.10 Pricing the tender offer

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

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

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

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

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

F.2.13 Submitting a tender offer

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

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

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

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

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

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

PART T1.2: TENDER DATA
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F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.

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

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

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

F.2.15 Closing time

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

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

F.2.16 Tender offer validity

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

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

F.2.17 Clarification of tender offer after submission

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

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

F.2.18 Provide other material

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

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

F.2.19 Inspections, tests and analysis

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

PART T1.2: TENDER DATA
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F.2.20 Submit securities, bonds, policies, etc.

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

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to clarification

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

F.3.2 Issue Addenda

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

F.3.3 Return late tender offers

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

F.3.4 Opening of tender submissions

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

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

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

F.3.5 Two-envelope system

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

PART T1.2: TENDER DATA

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

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

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

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

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

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

F.3.9 Arithmetical errors

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

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

PART T1.2: TENDER DATA

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

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

F.3.11.1 General

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

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

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

F.3.11.2 Scoring Financial Offers

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

$N_{FO} = W_1 \times A$ where:

N_{FO} = the number of tender evaluation points awarded for the financial offer.

W_1 = the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.

A = a number calculated using either formulas 1 or 2 below as stated in the Tender Data.

PART T1.2: TENDER DATA

BID No: DHS-233-24-MP

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

where:

P_m = the comparative offer of the most favourable tender offer.

P = the comparative offer of tender offer under consideration.

F.3.11.3 Scoring quality (functionality)

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

F.3.12 Insurance provided by the employer

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

F.3.13 Acceptance of tender offer

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

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

F.3.14 Notice to unsuccessful tenderers

After the successful tenderer has acknowledged the employer's notice of acceptance, notify other tenderers that their tender offers have not been accepted.

F.3.15. Prepare contract documents

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

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents,
- c) other revisions agreed between the employer and the successful tenderer, and
- d) the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.16 Issue final contract

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

F.3.17 Complete adjudicator's contract

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

F.3.18 Provide copies of the contracts

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

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

RETURNABLE DOCUMENTS

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

T2.1 LIST OF RETURNABLE DOCUMENTS

The tenderer must complete the following returnable documents:

1. Returnable Schedules required only for tender evaluation purposes

- FORM A1. Invitation to Bid (**SBD1**)
- FORM A2.1 Record of Addenda to Tender Documents
- FORM A2.2 Proposed amendments and qualifications
- FORM A3.1. Preferencing Schedule: Preference points Status (SBD 6.1)
- FORM A4. Compulsory Enterprise Questionnaire
- FORM A5. Certificate of Attendance at a Tender Site Meeting
- FORM A6. Certificate of Authority of Joint Ventures/ Close corporations/ Partnership/
Company/ Sole proprietor (Certified Copies of the Identity Documents in the Case of
sole proprietor)
- FORM A7. Registration Certificate of Entity and Bank rating
- FORM A8. Schedule of Tenderer's Experience
- FORM A9.1. Schedule of Key Personnel
- FORM A9.2. Format of Curriculum Vitae (CV)
- FORM A10. Schedule of Sub-Contractors
- FORM A11. Schedule of plant and equipment
- FORM A12. Certificate of Registration with CIDB
- FORM A13. Declaration certificate for local production and content for designated sectors (**SBD 6.2**)
- FORM A14. Competence Achievement Schedule
- FORM A15. Registration on National Treasury Central Supplier Database
- FORM A16. Form of Intent to offer a Performance Guarantee

- FORM A18 Declaration of Interest (**SBD 4**)

2. Other documents that will be incorporated into the contract

- FORM B1. Authority of Signatory
- FORM B2. Execution Programme
- FORM B3. Contractor's Health and Safety Declaration
- FORM B4. APPLICATION FOR A PERMIT TO DO CONSTRUCTION WORK, Regulation 3(2) of
Construction Regulations, 2014.

PART T2: RETURNABLE DOCUMENTS

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PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

FORM A1: PART A - INVITATION TO BID

SBD 1

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF CHIEF ALBERT LUTHULI LOCAL MUNICIPALITY					
BID NUMBER:	DHS/223/24/MP	CLOSING DATE:	17 MAY 2024	CLOSING TIME:	12:00
DESCRIPTION	APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM.					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
No. 7 Government Boulevard - Riverside Park, Ext 2 - Mbombela - 1200					
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		OR	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	☐ Yes ☐ No	
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES, ANSWER PART B:3]	
TOTAL NUMBER OF ITEMS OFFERED			TOTAL BID PRICE	R	
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:			TECHNICAL INFORMATION MAY BE DIRECTED TO:		
DEPARTMENT	SUPPLY CHAIN UNIT	CONTACT PERSON			
CONTACT PERSON		TELEPHONE NUMBER			
TELEPHONE NUMBER		FACSIMILE NUMBER			
FACSIMILE NUMBER		E-MAIL ADDRESS			
E-MAIL ADDRESS					

PART T2: RETURNABLE DOCUMENTS

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FORM A1: PART B - TERMS AND CONDITIONS FOR BIDDING

SBD 1 (Cont.)

1. BID SUBMISSION:	
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.	
1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED-(NOT TO BE RE-TYPED) OR ONLINE	
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.	
2. TAX COMPLIANCE REQUIREMENTS	
2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.	
2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.	
2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.	
2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.	
2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.	
2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.	
2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.	
3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS	
3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?	☐ YES ☐ NO
3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA?	☐ YES ☐ NO
3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	☐ YES ☐ NO
3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?	☐ YES ☐ NO
3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?	☐ YES ☐ NO
IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.	

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

SIGNATURE OF BIDDER:.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:.....

DATE:.....

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER
OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

FORM A2.1: Record of Addenda to tender documents

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

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

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FORM A2.2: Proposed amendments and qualifications

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

The Tenderer's attention is drawn to clause 5.8 of SANS 10845-3 regarding the employer's handling of material deviations and qualifications.

Page	Clause or item	Proposal

Signed _____

Date _____

Name _____

Position _____

Tenderer _____

PART T2: RETURNABLE DOCUMENTS

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SBD 6.1

FORM A3.1: Preferencing schedule

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

NB: BEFORE COMPLETING THIS FORM, TENDERES MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF PROVINCIAL SPECIFIC GOALS, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

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

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

1.2 The value of this bid is estimated to be **below** R50 000 000 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

- Price; and
- PROVINCIAL SPECIFIC GOALS Status Level of Contribution.

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

	POINTS
PRICE	80
PROVINCIAL SPECIFIC GOALS STATUS LEVEL OF CONTRIBUTION	20
Total points for Price and PROVINCIAL SPECIFIC GOALS must not exceed	100

1.4 Failure on the part of a bidder to fill in and/or to sign this form and submit a PROVINCIAL SPECIFIC GOALS Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for PROVINCIAL SPECIFIC GOALS status level of contribution are not claimed.

1.5 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 "PROVINCIAL SPECIFIC GOALS" means broad-based black economic empowerment as defined in section 1 of the Broad -Based Black Economic Empowerment Act

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
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- 2.3 **“MUNICIPAL SPECIFIC GOALS status level of contributor”** means the Provincial Specific Goals status received by a measured entity based on its overall performance using the relevant scorecard contained 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;
- 2.4 **“bid”** means a written offer in a prescribed 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;
- 2.5 **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.6 **“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;
- 2.7 **“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;
- 2.8 **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 2.9 **“EME”** means any enterprise with annual total revenue of R5 million or less.
- 2.10 **“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;
- 2.11 **“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;
- 2.12 **“non-firm prices”** means all prices other than “firm” prices;
- 2.13 **“person”** includes a juristic person;
- 2.14 **“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;
- 2.15 **“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;
- 2.16 **“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;
- 2.17 **“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
- 2.18 **“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,
- 2.19 **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.
- 2.20 **“price”** means an amount of money tendered for goods or services and includes all applicable taxes less all unconditional discounts;
- 2.21 **“Tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- 2.22 **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000)

3. ADJUDICATION USING A POINT SYSTEM

- 3.1 The bidder obtaining the highest number of total points will be awarded to 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 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for PROVINCIAL SPECIFIC GOALS.
- 3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for PROVINCIAL SPECIFIC GOALS, the successful bid must be the one scoring the highest score for functionality.
- 3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

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4. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

4.1 POINTS AWARDED FOR PRICE

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

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

$$\begin{array}{ccc} 80/20 & \text{or} & 90/10 \\ P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) & & P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \end{array}$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

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

4.2.1 POINTS AWARDED FOR PRICE

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

$$\begin{array}{ccc} 80/20 & \text{or} & 90/10 \\ \text{or } P_s = 80 \left(1 + \frac{P_t - P_{\max}}{P_{\max}} \right) & & P_s = 90 \left(1 + \frac{P_t - P_{\max}}{P_{\max}} \right) \end{array}$$

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{max} = Price of highest acceptable tender

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5. POINTS AWARDED FOR SPECIFIC GOALS

5.1 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:

5.2. 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.)

Item no.	The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system)	Number of points claimed (90/10 system) (To be completed by the tenderer)
1.	100% Black owned enterprises within the definition of the HDI	2	
2.	At least 50% women owned enterprises	2	
3.	At least 50% youth owned enterprises	2	
4.	At least 50% enterprises people living with disabilities	2	
5.	Enterprises regarded as EMEs located within the province of Mpumalanga	2	

5.3 Tenderers who qualify as EMEs in terms of the PROVINCIAL SPECIFIC GOALS Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EMEs with PROVINCIAL SPECIFIC GOALS Status Level Certificates.

5.4 Tenderers other than EMEs must submit their original and valid PROVINCIAL SPECIFIC GOALS status level verification certificate or a certified copy thereof, substantiating their PROVINCIAL SPECIFIC GOALS rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS

5.5 A trust, consortium or joint venture, will qualify for points for their PROVINCIAL SPECIFIC GOALS status level as a legal entity, provided that the entity submits their PROVINCIAL SPECIFIC GOALS status level certificate.

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- 5.6 A trust, consortium or joint venture will qualify for points for their PROVINCIAL SPECIFIC GOALS status level as an unincorporated entity, provided that the entity submits their consolidated PROVINCIAL SPECIFIC GOALS scorecard as if they were a group structure and that such a consolidated PROVINCIAL SPECIFIC GOALS scorecard is prepared for every separate bid.
- 5.7 Tertiary institutions and public entities will be required to submit their PROVINCIAL SPECIFIC GOALS status level certificates in terms of the specialized scorecard contained in the PROVINCIAL SPECIFIC GOALS Codes of Good Practice.
- 5.8 A person will not be awarded points for PROVINCIAL SPECIFIC GOALS status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.
- 5.9 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher PROVINCIAL SPECIFIC GOALS status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

6 BID DECLARATION

- 6.1 Tenderers who claim points in respect of PROVINCIAL SPECIFIC GOALS Status Level of Contribution must complete the following:

7. PROVINCIAL SPECIFIC GOALS STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3, 1.2 AND 5.1

- 7.1 PROVINCIAL SPECIFIC GOALS Status Level of Contribution: _____ = _____ maximum of 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a PROVINCIAL SPECIFIC GOALS certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA).

8. SUB-CONTRACTING

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

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

- 8.1.1 If yes, indicate:

i) what percentage of the contract will be subcontracted? _____ %

ii) the name of the sub-contractor? _____

iii) the PROVINCIAL SPECIFIC GOALS status level of the sub-contractor? _____

iv) whether the sub-contractor is an EME?

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

9. DECLARATION WITH REGARD TO COMPANY/FIRM

- 9.1 Name of firm:

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9.2 VAT registration number

9.3 Company Registration number

9.4 TYPE OF FIRM (Tick Applicable Box)

☐	Partnership/Joint venture / consortium
☐	One Person business / sole propriety
☐	Close Corporation
☐	Company
☐	(Pty) Ltd
☐	Other: Specify

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

9.6 Company Classification (Tick Applicable Box):

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

9.7 PROVINCIAL INFORMATION

Provinciality where business is situated

Registered Account Number

Number

_____ Stand

9.8 TOTAL NUMBER OF YEARS THE COMPANY/FIRM HAS BEEN IN BUSINESS? _____

9.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company / firm for the preference(s) shown and I / we acknowledge that:

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- 1.9 I/we, the undersigned, who is / are duly authorized to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:
- i. The information furnished is true and correct.
 - ii. The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
 - iii. In the event of a contract being awarded as a result of points claimed as shown in paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct.
 - iv. If the PROVINCIAL SPECIFIC GOALS status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - a) disqualify the person from the bidding process.
 - b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.
 - c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation
 - d) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audialterampartem (hear the other side) rule has been applied; and forward the matter for criminal prosecution.

WITNESSES:

1.
2.

DATE:

SIGNATURE(S) OF BIDDER(S)

ADDRESS:

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FORM A3.2: B-BBEE Compulsory Declaration (In case of a JV)

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

Section 1: Enterprise Details

Name of enterprise:	
Contact person:	
Email:	
Telephone:	
Cell no	
Fax:	
Physical address	
Postal address	

Section 2: Particulars of companies and close corporations

Company / Close Corporation registration number	
--	--

Section 3: SARS Information

Tax reference number	
VAT registration number:	<i>State Not Registered if not registered for VAT</i>

Section 4: CIDB registration number

CIDB Registration number (if applicable)	
---	--

Section 5: National Treasury Central Supplier Database

Supplier number	
Unique registration reference number	

Section 6: Particulars of principals

principal: means a natural person who is a partner in a partnership, a sole proprietor, a director of a company established in terms of the Companies Act of 2008 (Act No. 71 of 2008) or a member of a close corporation registered in terms of the Close Corporation Act, 1984, (Act No. 69 of 1984).

Full name of principal	Identity Number	Personal tax reference number

Attach separate page if necessary

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Section 7: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any principal is currently or has been within the last 12 months in the service of any of the following:

- | | |
|--|---|
| <ul style="list-style-type: none"> a member of any provincial council a member of any provincial legislature a member of the National Assembly or the National Council of Province a member of the board of directors of any provincial entity an official of any provincially or provincial entity | <ul style="list-style-type: none"> an employee of any department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act of 1999 (Act No. 1 of 1999) a member of an accounting authority of any national or provincial public entity an employee of Parliament or a provincial legislature |
|--|---|

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

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

*insert separate page if necessary

Section 8: Record of family member in the service of the state

family member: a person's spouse, whether in a marriage or in a customary union according to indigenous law, domestic partner in a civil union, or child, parent, brother, sister, whether such a relationship results from birth, marriage or adoption

Indicate by marking the relevant boxes with a cross, if any family member of a principal as defined in section 5 is currently or has been within the last 12 months been in the service of any of the following:

- | | |
|--|--|
| <ul style="list-style-type: none"> a member of any provincial council a member of any provincial legislature a member of the National Assembly or the National Council of Province a member of the board of directors of any provincial entity an official of any provincially or provincial entity | <ul style="list-style-type: none"> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) a member of an accounting authority of any national or provincial public entity an employee of Parliament or a provincial legislature |
|--|--|

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

*insert separate page if necessary

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Section 9: Record of termination of previous contracts with an organ of state

Was any contract between the tendering entity including any of its joint venture partners terminated during the past 5 years for reasons other than the employer no longer requiring such works or the employer failing to make payment in terms of the contract.

Yes No (Tick appropriate box)

If yes, provide particulars (interest separate page if necessary)

Section 10: Declaration

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the tendering entity confirms that the contents of this Declaration are within my personal knowledge, and save where stated otherwise in an attachment hereto, are to the best of my belief both true and correct, and:

- i) neither the name of the tendering entity or any of its principals appears on:
 - a) the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 (Act No. 12 of 2004)
 - b) National Treasury's Database of Restricted Suppliers (see www.treasury.gov.za)
- ii) neither the tendering entity or any of its principals has within the last five years been convicted of fraud or corruption by a court of law (including a court outside of the Republic of South Africa);
- iii) any principal who is presently employed by the state has the necessary permission to undertake remunerative work outside such employment (attach permission to this declaration);
- iv) the tendering entity is not associated, linked or involved with any other tendering entities submitting tender offers
- v) has not engaged in any prohibited restrictive horizontal practices including consultation, communication, agreement, or arrangement with any competing or potential tendering entity regarding prices, geographical areas in which goods and services will be rendered, approaches to determining prices or pricing parameters, intentions to submit a tender or not, the content of the submission (specification, timing, conditions of contract etc) or intention to not win a tender;
- vi) has 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;
- vii) neither the tenderer or any of its principals owes provincial rates and taxes or provincial service charges to any provincially or a provincial entity and are not in arrears for more than 3 months;
- viii) SARS may, on an on-going basis during the term of the contract, disclose the tenderer's tax compliance status to the Employer and when called upon to do so, obtain the written consent of any subcontractors who are subcontracted to execute a portion of the contract that is entered into in excess of the threshold prescribed by the National Treasury, for SARS to do likewise.

Signed _____ Date _____

Name _____ Position _____

Enterprise name _____

NOTE 1 The Standard Conditions of Tender contained in SANS 10845-3 prohibits anticompetitive practices (clause 3.1) and requires that tenderers avoid conflicts of interest, only submit a tender offer if the tenderer or any of his principals is not under any restriction to do business with employer (4.1.1) and submit only one tender either as a single tendering entity or as a member in a joint venture (clause 4.13.1). Clause 5.7 also empowers the Employer to disqualify any tenderer who engages in fraudulent and corrupt practice. Clause 3.1 also requires tenderers to comply with all legal obligations.

NOTE 2: Section 30(1) of the Public Service Act, 1994, prohibits an employee (person who is employed in posts on the establishment of departments) from performing or engaging remunerative work outside his or her employment in the relevant department, except with the written permission of the executive authority of the department. When in operation, Section 8(2) of the Public Administration Management Act, 2014, will prohibit an employee of the public administration (i.e. organs of state and all national departments, national government components listed in Part A of Schedule 3 to the Public Service Act, provincial departments including the office of the premier listed in Schedule 1 of the Public Service Act and provincial departments listed in schedule 2 of the Public Service Act, and provincial government components listed in Part B of schedule 3 of the Public Service Act) or persons contracted to executive authorities in accordance with the provisions of section 12A of the Public

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Service Act of 1994 or persons performing similar functions in organs of state from conducting business with the State or to be a director of a public or private company conducting business with the State. The offence for doing so is a fine or imprisonment for a period not exceeding 5 years or both. It is also a serious misconduct which may result in the termination of employment by the employer.

NOTE 3: Regulation 44 of Supply Chain Management regulations issued in terms of the Provincial Finance Management Act of 2003 requires that organs of state and provincial entities not award a contract to a person who is the service of the state, a director, manager or principal shareholder in the service of the state or who has been in the service of the state in the previous twelve months.

NOTE: 4: Regulation 45 of Supply Chain Management regulations requires a provincially or provincial entity to disclose in the notes to the annual statements particulars of any award made to a close family member in the service of the state.

NOTE: 5 Corrupt activities which give rise to an offence in terms of the Prevention and Combating of Corrupt Activities Act of 2004) include improperly influencing in any way the procurement of any contract, the fixing of the price, consideration or other moneys stipulated or otherwise provided for in any contract and the manipulating by any means of the award of a tender.

NOTE: 6 Section 4 of the Competition Act of 1998 prohibits restrictive horizontal practice including agreements between parties in a horizontal relationship which have the effect of substantially preventing or lessening competition, directly or indirectly fixing prices or dividing markets or constitute collusive tendering. Section 5 also prohibits restrictive vertical practices. Any restrictive practices that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties.

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FORM A4: COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

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

a member of any provincial council
a member of any provincial legislature
a member of the National Assembly or the National Council of Province
a member of the board of directors of any provincial entity
an official of any provincially or provincial entity

an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
a member of an accounting authority of any national or provincial public entity
an employee of Parliament or a provincial legislature

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

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

*insert separate page if necessary

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

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

a member of any provincial council
a member of any provincial legislature
a member of the National Assembly or
the National Council of Province
a member of the board of directors of
any provincial entity
an official of any provincially or
provincial entity

an employee of any provincial department, national or
provincial public entity or constitutional institution
within the meaning of the Public Finance
Management Act, 1999 (Act 1 of 1999)

a member of an accounting authority of any national
or provincial public entity

an employee of Parliament or a provincial legislature

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

*insert separate page if necessary

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

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that 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;
- 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.

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Signed

Date

Name

Identity
number

Position

Enterprise
name

PART T2: RETURNABLE DOCUMENTS

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PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

FORM A5: Certificate of Attendance at a tender site meeting

I / We acknowledge that the tender briefing was attended by a company representative able to relay the presentation of the works and/ or matters incidental to doing the works in the tender document in order for me/ us to take account of everything necessary when compiling our rates and prices included in the tender.

I/we acknowledge that the attendance register will be used to confirm our company's presence and if found to be absent, will lead to our tender being disqualified.

Name: Signature:

Capacity: Date and Time:

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

**FORM A6: Certificate of Authority of Joint Ventures/ Close corporations/
Partnership/ Company/ Sole proprietor (Certified Copies of the
Identity Documents in the Case of sole proprietor)**

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

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

(I) CERTIFICATE OF 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 the tender for Contract No. TBC and any
contract resulting from it on behalf of the company.

Chairman:

As Witnesses: 1.....

2.....

Date:

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

(II) **CERTIFICATE FOR CLOSE CORPORATION**

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. TBC 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 members upon whom rests the direction of the affairs of the Close Corporation as a whole.*

(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. TBC 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.*

PART T2: RETURNABLE DOCUMENTS

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(IV) CERTIFICATE FOR JOINT VENTURE

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms . . .
 , authorised 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 from it on
 our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORIZED SIGNATORY
Lead partner		Signature. Name Designation.
		Signature. Name Designation.
		Signature. Name Designation.
		Signature. Name Designation.

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 Joint Venture as a whole.*

(V) CERTIFICATE FOR SOLE PROPRIETOR

I, , hereby confirm that I am the sole owner of the Business
 trading as

Signature of Sole owner:

As Witnesses:

Date:

1.

2.

PART T2: RETURNABLE DOCUMENTS

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EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

FORM A7: Registration Certificate of an Entity

Important note to Tenderer:

- 1. Registration Certificates for Companies, Close Corporations and Partnerships, and ID documents for Sole Proprietors, must be attached here. In the case of a Joint Venture, a copy of a duly signed Joint Venture Agreement must be included***
- 2. Bank letter to be attached here. To be specific to this project and not older than 30 days. The letter shall state the tenderers ability to finance working capital requirements before the first claim is to be paid by the client.***

PART T2: RETURNABLE DOCUMENTS

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PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
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FORM A8: Schedule of the Tenderer's Experience (attach proof)

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

Signed.....

Date

Name

Position.....

Tenderer

PART T2: RETURNABLE DOCUMENTS

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FORM A9.1: Schedule Key Personnel (Attach proof of qualifications)

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

	NUMBER OF PERSONS					
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION		KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY		UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
Site Agent, Project Managers						
Foremen, Quality Control and Safety Personnel						
Artisans and other Skilled workers						
Plant Operators						
Unskilled Workers						
Others:						
.....						
.....						
.....						

Signed

Date

Name

Position

Tenderer

BID NO: DHS/223/24/MP

FORM A9.2: Format of Curriculum Vitae of Key Personnel (Attach proof of qualifications)

Project Manager

Certification:

Signature of person named in the schedule

Date _____

BID NO: DHS/223/24/MP

Provide separate forms for each position listed in the Form: Key Personnel

[illegible]

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

Date _____

BID NO: DHS/223/24/MP

Provide separate forms for each position listed in the Form: Key Personnel

[illegible]

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

Date

PART T2: RETURNABLE DOCUMENTS

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FORM A11: Schedule of Plant and Equipment (Attach proof ownership or intent to hire/lease)

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

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

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

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

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signed Date

Name Position

Tenderer:

PART T2: RETURNABLE DOCUMENTS

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FORM A12: Certificate of Registration with CIDB (attach proof relevant grading)

The tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. (www.cidb.org.za). Tenderers whose CIDB registration expires within 21 days after close of tender should attach proof of their application for re-registration (refer to Tender Data Clause F.2.1). In the case of a Joint Venture, a printed copy of the Active Contractor's Listing must be provided for each member of the Joint Venture.

Name of Contractor:

Contractor Grading Designation:

CIDB Contractor Registration Number:

Expiry Date:

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SBD 6.2

**FORM A13: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND
CONTENT FOR DESIGNATED SECTORS**

This Provincial 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. Where necessary, for bids referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

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.

- 1.6. 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.

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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:

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

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):

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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 Provinciality / Provincial 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/industrialdevelopment/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.

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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 / Provinciality /Provincial 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 / Provincial / Provincial 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: _____

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FORM A14: EVALUATION CRITERIA

Functionality Points will be spread as follows (**100 points maximum**). Refer to Tender Data clause F.3.11:

1. COMPANY EXPERIENCE – 30 POINTS

Evaluation shall be based on the largest projects executed in the past five (5) years. Only experience from the tendering entity, and not by staff members, shall be considered.

✓ **Company Experience in similar construction– 30 points**

- i) Evaluation shall be based on the five largest projects executed in the past five years. Only experience from the tendering entity, and not by staff members, shall be considered.

✓ **Relevant Overall Experience of Company – 30 points**

<u>Company Experience</u>	Returnable schedule Ref	Points
A) Provide the names of current/recent contactable references for each project that the bidder has executed in the last five years. A maximum of five (5) projects of similar scope and complexity (minimum pipe diameter 200mm). NB: No points will be allocated without certified appointment letters and completion certificates	Competence Achievement Schedules: FORM A14 Table A1 (Also in line with FORM A8)	Points per project: > 20mil = 6 points 10 – 20mil = 4 points 5 – 10mil = 2 points < 5mil = 0 points Only five projects to be considered. Maximum of 30 points

PART T2: RETURNABLE DOCUMENTS

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TABLE A1: COMPANY EXPERIENCE

	TARGETED GOALS	TENDERED GOAL	POINTS CLAIMED BY TENDERER	ALLOCATED POINTS
	Attach letter of reference (original or certified copies)			
1		6		
2		6		
3		6		
4		6		
5		6		
	SUB-TOTAL: Company Experience	30(max)		

2. CONSTRUCTION TEAM KEY PERSONNEL – 30 POINTS

A CV of each key staff member of not more than 2 pages should be attached to this schedule. The CV should be structured under the following headings:

1. Personal particulars
 - name
 - date and place of birth
 - place (s) of tertiary education and dates associated therewith
 - professional awards
2. Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations). Attach certificates
3. Name of current employer and position in enterprise
4. Overview of post graduate / diploma experience (year, organization and position)
5. Outline of recent assignments / experience relevant to the scope of work

The scoring of the experience of key staff will be as follows:

	QUALIFICATIONS	EXPERIENCE
Project Manager (max 10 points)	Minimum of relevant degree/ diploma: 4 points Professional registration: 1 point SACMP registration: 1 point	At least 5 years experience: 4 points
Site Agent (max 10 points)	Minimum of relevant degree/ diploma: 5 points	At least 5 years experience: 5 points
Health and Safety Officer (max 5 points)	Health and Safety Certificate or SAMTRAC: 3 points	At least 3 years experience: 2 points
Site Foreman (max 5 points)	N6 in Civil or equivalent: 3 points	At least 3 years experience: 2 points

PART T2: RETURNABLE DOCUMENTS

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TABLE A3: CONSTRUCTION TEAM KEY PERSONNEL

Evaluated based on information provided on **FORM A9.2**

	TARGETED GOALS (CV's and certified copies of relevant/ required qualifications must be attached)	TENDERED GOAL	POINTS Claimed by tenderer	ALLOCATED POINTS
1	Project Manager Name.....	10		
2	Site Agent Name.....	10		
4	Health and Safety Officer Name.....	5		
5	Site Foreman Name.....	5		
	SUB-TOTAL: Construction team key personnel	30 (max)		

3. PLANT AND EQUIPMENT – 20 POINTS

Evaluated based on information provided on **FORM A11**

TABLE A4: PLANT AND EQUIPMENT

	TARGETED GOALS	TENDERED GOAL	POINTS CLAIMED BY TENDERER	ALLOCATED POINTS
1	2 x Tipper Trucks (6 m³)	8		
2	1 X Excavator (PC200 or larger)	3		
3	1 x Water Tank (9 000litre or larger)	3		
4	1 x TLB	3		
6	1 x Doubled drum walk behind compactor or plate compactor	3		
	SUB-TOTAL: Plant & Equipment	20 (max)		

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4. FINANCIAL REFERENCES – 10 POINTS

Evaluated based on information provided on **FORM A7**

This will be assessed against Bank ratings as follows (If a bank letter is submitted, it should be specific to this project and not older than 30 days) Letter shall state the tenderers ability to finance working capital requirements before the first claim is paid by the client.:

FINANCIAL REFERENCE	Returnable schedule Ref	Bank Rating	Tendered Goal
Adequate – Good for the amount strictly in accordance with business	TABLE A2: FINANCIAL REFERENCES	A-B	10
Poor – Reasonable business risk (additional motivation will be *required prior appointment)		C	8
Inadequate and risky		D	5
Contractor's letter of intent from a registered financial institution of guarantor in the amount of 10% for surety		E	0

TABLE A2: FINANCIAL REFERENCES

TARGETED GOALS	TENDERED GOAL	POINTS CLAIMED BY TENDERER	ALLOCATED POINTS
Bank rating of A-B	10		
Bank rating of "C"	8		
Bank rating of "D"	5		
Bank rating of "E-F"	0		
SUB-TOTAL: Financial references	10 (max)		

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5. LOCALITY – 10 POINTS

The bidder must attaché proof of locality of the company in order to get maximum point. (The municipal rates and taxes should not be older than 3 months) or the lease of agreement must be attached

	TENDERED GOAL	POINTS CLAIMED BY TENDERER	ALLOCATED POINTS
WITHIN THE DISTRICT	10		
IN MPUMALANGA	5		
IN SOUTH AFRICA	3		
SUB-TOTAL:	10 (max)		

6. SUMMARY OF THE COMPETENCE ACHIEVEMENT SCHEDULE (FUNCTIONALITY)

		MAXIMUM POINTS TO BE ALLOCATED	POINTS CLAIMED BY TENDERER	ALLOC ATED POINT s
1	Company Experience	30		
2	Construction Team Key Personnel	30		
3	Plant and Equipment	20		
4	Financial References	10		
5	Locality	10		
	SUB-TOTAL:	100		

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FORM A15: Registration on National Treasury Central Supplier Database

The tenderer shall provide a printed copy of the Active Supplier Listing on the National Treasury Central Supplier Database. (www.treasury.gov.za). Tenderers who are not registered on the Central Supplier Database should attach proof of their application for registration. In the case of a Joint Venture, a printed copy of the Active Supplier Listing must be provided for each member of the Joint Venture.

Name of Contractor:

Central Supplier Database Supplier Number:

Expiry Date:

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FORM A16: Form of Intent to Provide a Performance Guarantee

The Tenderer must attach hereto a letter from the bank or institution with whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required performance guarantee when asked to do so.

PRO-FORMA FOR A PERFORMANCE GUARANTEE

PERFORMANCE GUARANTEE

Employer: (Name and Address)

.....

Bid No:

(Contract title)

WHEREAS

.....

(hereinafter referred to as "the Employer") entered into, a Contract with

.....

(herein after called "the Contractor") on theday of

.....

20.....
for the construction of (Contract Title)

.....

.

at

.....

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

AND WHEREAS (herein after referred to as "the Guarantor") Has/have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE,

.....

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

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor. However, upon receipt by us of an authenticated copy of the Certificate of Completion in terms of the Contract, the amount of liability shall be reduced by 50%, which shall be in force until the issue of the Final Approval Certificate at expiry of the Defects Liability Period
4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the sum of

.....

.....

.....(in words)

R (in figures)

(10 % of the tender sum) which amount I/we agree to hold at your disposal.
6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.

I/We declare that I/we, on behalf of the Guarantor, waive the legal exceptions available to a guarantor and undertake to pay the said amount or such portion thereof as may be demanded, immediately on receipt of a written demand from you.

A certificate under your hand shall be sufficient and satisfactory evidence as to the amount of the Guarantor's liability for the purpose of enabling provisional sentence or any similar relief to be obtained against the Guarantor.

This guarantee is neither negotiable nor transferable, and must be surrendered to the Guarantor in the event of the full amount of the Guarantee being paid to the Employer.

PART T2: RETURNABLE DOCUMENTS

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PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

7. I/We hereby choose our address for the serving of all notices for all purposes arising here
from as

.....
.....

IN WITNESS WHEREOF this guarantee has been executed by us at

.....

on this day of 20.....

As witnesses:

1. Signature

2. Signature

Duly authorized to sign on behalf of (*Guarantor*).....

Address

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

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
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PART T2: RETURNABLE DOCUMENTS

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PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

TAX CLEARANCE CERTIFICATE

[Tax Clearance Certificate obtained from SARS to be attached here]

PART T2: RETURNABLE DOCUMENTS

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PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

MBD 4

FORM A18: Declaration of Interest

1. No bid will be accepted from persons in the service of the state*.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

3.1 Full Name:

3.2 Identity Number:

3.3 Company Registration Number:

3.4 Tax Reference Number:

3.5 VAT Registration Number:

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

3.6.1 If so, furnish particulars.

.....

.....

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

3.7.1 If so, furnish particulars.

.....

3.8 Do you, have any relationship (family, friend, other) with persons
in the service of the state and who may be involved with the

evaluation and or adjudication of this bid? **YES/NO** 3.8.1 If s

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

.....
.....

3.9 Are you, aware of any relationship (family, friend, other) between
a bidder and any persons in the service of the state who may be

involved with the evaluation and or adjudication of this bid?

YES/NO

3.9.1 If so, furnish particulars

.....
.....

3.10 Are any of the company's directors, managers, principle
shareholders or stakeholders in service of the state?

YES / NO

3.10.1 If so, furnish particulars.

.....
.....

3.11 Are any spouse, child or parent of the company's directors,
managers, principle shareholders or stakeholders in service
of the state?

YES / NO

3.11.1 If so, furnish particulars.

.....
.....

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

(a) a member of –

- (i) any provincial council;
- (ii) any provincial legislature; or
- (iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any provincial entity;

(c) an official of any provinciality or provincial entity;

(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);

(e) a member of the accounting authority of any national or provincial public entity; or
an employee of Parliament or a provincial legislature.

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

FORM B3: Contractor's Health and Safety Declaration

In terms of Clause 4(4) 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 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 hereby confirm that adequate provision has been made in my tendered rates and prices in the Bill 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, including the cost of the specific items listed in the tables hereafter.

(Tables to be completed by Tenderer)

TABLE 1: COST OF SAFETY PERSONNEL

PERSONNEL	COSTS AS ALLOWED IN TENDER	NOMINATED PERSON/S
Construction Supervisor		
Construction Safety Officer		
Health and Safety Representatives		
Health and Safety Committee		

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

TABLE 2: COST OF SAFETY EQUIPMENT

EQUIPMENT	STATE YES or NO	COST ALLOWED FOR IN TENDER
Hard hats		
Safety boots		
Gloves		
Dust Masks		
Safety jackets		
Add items as per risk assessment:		

4. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 5(1) of the Construction Regulations, which plan shall be subject to approval by the Employer.
5. I confirm that copies of my company's approved Health and Safety Plan, the Employer's 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 Engineer and his Agents, visitors, and officials and inspectors of the Department of Labour.
6. I hereby confirm that I will be liable for any penalties that may be applied by the Employer in terms of the said Regulations (Regulation 30) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
7. 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)

The Tenderer shall submit separately before commencement of the works his Health and Safety Plan as required in terms of Regulation 5 of the Occupational Health and Safety Act 1993 Construction Regulations 2014, and referred to in T2.1

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

**FORM B4: APPLICATION FOR A PERMIT TO DO CONSTRUCTION WORK,
Regulation 3(2) of Construction Regulations, 2014**

*[This form must be completed and forwarded, prior to commencement of work on site, by
all Contractors that qualify in terms of Regulation 3 of the Construction Regulations 2014,
to the office of the Provincial Director, Department of Labour]*

This application must be submitted with the following documents:

1. Health and Safety specifications
2. Health and Safety Plan
3. Baseline risk assessment

1. Name, postal address and telephone numbers of client:

Name

Postal address

Telephone

2. Details of Agent

Title, Surname and Initials

ID/Passport No.

Registration no. with SACPCMP

Office Tel/Mobile

Postal address

3. Name, postal address and telephone numbers of the appointed principal contractor:

.....

.....

4. Name, postal address and telephone numbers of designer of project:

.....

.....

5. Name, postal address and telephone numbers of the following persons:

Construction Manager

Construction Health and Safety Manager

Construction Health and Safety Officer:

PART T2: RETURNABLE DOCUMENTS

BID NO: DHS/223/24/MP

PROJECT NAME APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF BULK WATER INFRASTRUCTURE (HIGHVELD LINE) FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS UNDER EMALAHLENI LOCAL MUNICIPALITY

6. Exact physical address of construction and site office:

.....
.....

7. Nature of construction work:

.....

8. Expected commencement date:

.....

9. Expected completion date:

.....

10. Estimated maximum number of people on the construction site:

.....

11. Planned number of constructors on site accountable to principal contractor:

.....

12. Name(s) of contractors appointed:

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

13. Signature of Client/Client's Agent:

.....

14. Signature of Principal Contractor:

.....

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

(a) a member of –

- (i) any provincial council;
- (ii) any provincial legislature; or
- (iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any provincial entity;

(c) an official of any provinciality or provincial entity;

(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);

(e) a member of the accounting authority of any national or provincial public entity; or an employee of Parliament or a provincial legislature.

.....

CONTRACT

PART 1: AGREEMENT AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE (Agreement)

OFFER

The **TENDERER** is to complete and sign the **Form of Offer**

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

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

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS

AMOUNT	AMOUNT IN WORDS
R.....	

(firm)* (adjustable)*

*(delete which does not apply)

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

Signature(s)

Name(s)

Capacity

For the
Tenderer

(Name and address of organisation)

Name and
signature of
witness

Date

Acceptance

The EMPLOYER will complete and sign the form of Acceptance

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

The terms of the contract are contained in

Part 1 Agreement and Contract Data, (which includes this Agreement)

Part 2 Pricing Data

Part 3 Scope of Work

Part 4 Site Information

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

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

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

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now the Contractor) within five (5) days after the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute binding contract between the parties,

Signature(s)

Name(s)

Capacity

**For the
Employer**

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

SCHEDULE OF DEVIATIONS

Notes:

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

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

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

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

For the Tenderer:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

**Name and
signature of
witness**

Date

For the Employer:

Signature(s)

Name(s)

Capacity

(Name and address of organisation)

**Name and
signature of
witness**

Date

C1.2 CONTRACT DATA

PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF CONTRACT

This Contract will be based on the "General Conditions of Contract for Construction Works – 3rd Edition 2015", issued by the South African Institution of Civil Engineering. (Short title: "General Conditions of Contract") and can be obtained from:

SAICE Waterfall
Park Howick
Gardens
Vorna Valley Half way House
Becker Street
MIDRAND
1685
www.saice.org.za

Gauteng Province
Tel: (011) 805-5947/8
Fax: (011) 805-5971.

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under "Special Conditions of Contract".

SPECIAL CONDITIONS OF CONTRACT

1. GENERAL

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or sub clause in the General Conditions of Contract 2015, 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 General Conditions, and an appropriate heading.

2. AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT

The variations to the General Conditions of Contract are:

SCC 4.4.3 For conditions regarding selection of **LOCAL EMERGING SUB-CONTRACTORS** (LES Work see additional clauses below.

The additional clauses to the General Conditions of Contract are:

LOCAL EMERGING SUBCONTRACTORS (LES)

The Contractor shall promptly, and in any event within a reasonable time after the Commencement Date, sub-contract a portion of the Works to the value of **thirty (30) percent** of the work specified in the Schedule of Works (excluding preliminary and general costs) ("the LES Work") to one or more of the local emerging sub-contractors notified by the Employer to the Contract ("the Local Emerging Sub-Contractors"), in strict accordance with, and subject to, the requirements set out in Paragraphs (i) to (x) of this Clause, as follows:

- (i) The Contractor shall select the Local Emerging Sub-Contractor(s) to whom he is to sub-contract the LES Work by means of a competitive bidding process conducted strictly in accordance with the CIDB Standard for Uniformity in Construction Procurement and Best Practice Guidelines January 2009, and in doing so shall exercise all reasonable endeavours to ensure as inclusive and equal a distribution of the LES Work as shall be practicable amongst all the Local Emerging Sub-Contractors, taking into account price, competency and capacity only.
- (ii) The Contractor shall, without reference to the Employer, consider only the competencies and capacity of each Local Emerging Sub-Contractor, be free to identify those components of the LES Work that he shall allocate to each Local Emerging Sub-Contractor.
- (iii) Subject to paragraphs (iv) and (vii) of this clause, in the event that the Contractor fails to sub-contract and/or allocate the required quantum of LES Work or any portion thereof in accordance with this clause, the Engineer may either a) apply a penalty equal to 10% of the value of the shortfall, or b) make a determination regarding the setting aside of the LES Work so as to prevent the shortfall.
- (iv) Subject to paragraph (vii) of this clause, and notwithstanding paragraph (iii) of this clause, in the event that the Contractor fails to sub-contract and/or allocate the required quantum of LES Work or any portion thereof in accordance with this clause by reason of his inability to reach agreement on price with one or more of the Local Emerging Sub-Contractor(s), the Engineer may, in his absolute discretion, advise the Employer to allow an increase in the Contractor's rates to so as to facilitate successful price negotiation. In the event that the Employer refuses to authorise an increase to the Contractor's rates or, in the event that the authorised increase in rates fails to facilitate successful negotiation between the Contractor and the relevant Local Emerging Sub-Contractor(s), the Contractor shall be relieved of his obligation to sub-contract the relevant portion of LES Work, always subject to paragraph (vii) of this clause.
- (v) The rates to be applied by the Contractor in the sub-contracts with the Local Emerging Sub-Contractors for the LES Work shall at all times be based strictly on the rates applicable to the Contractor under the Contract, save for any adjustments allowed in terms of paragraph (iv) above.

- (vi) The Contractor shall apply the same rates to each Local Emerging Sub-Contractor in respect of each component of the LES Work, such that, in the event that more than one Local Emerging Sub-Contractor is successfully selected for a single component of the LES Work, the same rates shall apply to each of the selected Local Emerging Sub-Contractors in respect of the said single component.
- (vii) The Contractor shall not be under any obligation to employ a Local Emerging Sub-Contractor against whom the Contractor raises reasonable objection by written notice to the Engineer as soon as practicable, with supporting particulars in writing. In the event of failure on the part of the Contractor to prove reasonable objection to the satisfaction of the Engineer, the Engineer's determination shall be final and binding.
- (viii) The Contractor shall be entitled to include within the Contract Price a maximum management fee of 10% in excess of the rates paid to the Local Emerging Sub-Contractors.
- (ix) When tendering the Contractor shall have exercised all reasonable care not to distort any rates in such a way as to hinder or preclude his obligations under this clause, and, in the event that the Engineer determines the setting aside of the LES Work in terms of paragraph (iii) above, the Contractor shall be prevented from arguing that such LES Work is reserved not to be subcontracted.
- (x) The Contractor shall submit a priced copy of the final agreed version of each proposed sub-contract with a Local Emerging Sub-Contractor ("the Final Draft LES Sub-Contract") to the Employer prior to the execution of such sub-contract. In the event that the Employer, in consultation with the Engineer, deems the price or any other term of any Final Draft LES Sub-Contract to be unduly onerous or unfair to the Local Emerging Sub-Contractor concerned, the Contractor shall modify the price and/or terms in accordance with the Engineer's reasonable instructions.

In sub-contracting the LES Work, the Contractor shall be responsible for performing the LES Work as if he had not sub-contracted. The Contractor shall be liable for the acts and omissions of the employees, sub-contractors and agents of the Local Emerging Sub-Contractors as if they were his own employees, sub-contractors and agents.

CONDITIONS OF CONTRACT FOR LABOUR-INTENSIVE CONSTRUCTION

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.

Applicable labour laws

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 N° R63 of 25 January 2002 shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers, as reproduced below.

1 Introduction

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

In this document –

“department” means any department of the State, implementing agent or contractor;

“employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on a SPWP;

“worker” means any person working in an elementary occupation on a SPWP; “elementary occupation” means any occupation involving unskilled or semi-skilled work; “management” means any person employed by a department or implementing agency to administer or execute an SPWP;

“task” means a fixed quantity of work;

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

“task-rated worker” means a worker paid on the basis of the number of tasks completed;

“time-rated worker” means a worker paid on the basis of the length of time worked.

2 Terms of Work

2.1 Workers on a SPWP are employed on a temporary basis.

2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a SPWP.

2.3 Employment on a SPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3 Normal Hours of Work

3.1 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.

3.2 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.

3.3 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.

4 Meal Breaks

4.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

4.2 An employer and worker may agree on longer meal breaks.

4.3 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.

4.4 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.

5 Special Conditions for Security Guards

5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

5.2 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.

6 Daily Rest Period

Every worker is entitled to a daily rest period of at least eight 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.

7 Weekly Rest Period

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

8 Work on Sundays and Public Holidays

8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

8.2 Work on Sundays is paid at the ordinary rate of pay.

8.3 A task-rated worker who works on a public holiday must be paid –

- (a) the worker's daily task rate, if the worker works for less than four hours;
- (b) double the worker's daily task rate, if the worker works for more than four hours.

8.4 A time-rated worker who works on a public holiday must be paid –

- (a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;
- (b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

9 Sick Leave

9.1 Only workers who work four or more days per week have the right to claim sickpay in terms of this clause.

9.2 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.

9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

9.4 Accumulated sick-leave may not be transferred from one contract to another contract.

9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

9.7 An employer must pay a worker sick pay on the worker's usual payday.

9.8 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 –

- absent from work for more than two consecutive days; or
- absent from work on more than two occasions in any eight-week period.

9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

9.10 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.

10 Maternity Leave

10.1 A worker may take up to four consecutive months' unpaid maternity leave.

10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.

10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

10.4 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.

10.5 A worker may begin maternity leave –

- (a) four weeks before the expected date of birth; or
- (b) on an earlier date –
 - (i) 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
 - (ii) 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.

10.6 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.

10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months' employment, unless the SPWP on which she was employed has ended.

11 Family responsibility leave

11.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

- (a) when the employee's child is born;
- (b) when the employee's child is sick;
- (c) in the event of a death of –
the employee's spouse or life partner;
the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

12 Statement of Conditions

12.1 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 SPWP;
- (b) the tasks or job that the worker is to perform; and
the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
the worker's rate of pay and how this is to be calculated;
the training that the worker will receive during the SPWP.

12.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

12.3 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping Records

13.1 Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) in the case of a task-rated worker, the number of tasks completed by the worker;
- (c) in the case of a time-rated worker, the time worked by the worker;
- (d) payments made to each worker.

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

14 Payment

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

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

14.3 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.

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

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

14.6 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.

14.7 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.

14.8 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.

14.9 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.

15 Deductions

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

15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

15.3 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.

15.4 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 pay the employer or any other person for having been employed.

16 Health and Safety

16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

16.2 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 SPWP;
- (d) use any personal protective equipment or clothing issued by the employer;
- (e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

17 Compensation for Injuries and Diseases

17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a SPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

17.2 A worker must report any work-related injury or occupational disease to their employer or manager.

17.3 The employer must report the accident or disease to the Compensation Commissioner.

17.4 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.

18 Termination

18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

18.2 A worker will not receive severance pay on termination.

18.3 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.

18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

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

19 Certificate of Service

19.1 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 SPWP on which the worker worked;
(d) the work performed by the worker;
(e) any training received by the worker as part of the SPWP;
(f) the period for which the worker worked on the SPWP;
any other information agreed on by the employer and worker.

The additional clauses to the General Conditions of Contract are:

Clause	Data
SCC5.12.2.2.1	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Engineer, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be considered for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time. Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" workings days. The number of "n" working days will be calculated based on the Contract period and the expected number of working days lost as a result of normal rainfall between the contractual commencement and completion dates. Based on historical weather data for the region, refer to part C.4. n = 12 days for this project.

CONTRACT SPECIFIC DATA

The following contract specific data are applicable to this Contract:

C1.2.2: PART 1: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

CONTRACT SPECIFIC DATA BY THE EMPLOYER

Clause 1.1.1.15: The name of the Employer is Mpumalanga Department of Human Settlements

Clause 1.2.1.2: Address of Employer:

The address of the Employer is:

<u>Physical:</u>	<u>Postal:</u>	
No 7 Government Boulevard	Private Bag X11328	Tel: 013 766 6449
Riverside Park	Mbombela	Fax: N/A
Mbombela	1200	
1200		

Clause 1.1.1.16: The name of the Engineer is:
Seroadime Consulting Engineers CC

Clause 1.2.1.2: Address of Engineer:

<u>Physical:</u>	<u>Postal:</u>	
43 Marloth Street		Tel: 013 753 3713 / 078 788 7607
NELSPRUIT		Fax: 086 539 7515
1200		tmashegoana@yahoo.com

Clause 2.4: If an ambiguity or discrepancy between the documents is found the Contractor shall immediately notify the Engineer and giving effect to clause 2.1 and the Engineer shall issue any necessary clarification or instruction.

For the purpose of interpretation, the priority of the documents shall be in accordance with the following sequence:

1. Letters of offer and acceptance
2. Contract data
3. Particular conditions of contract
4. General conditions of contract
5. Scope of works
6. Schedule of quantities
7. Project drawings
8. Standard specifications
9. Standard drawings
10. Schedules and other documents forming part of the contract

-
- Clause 5.3.1: The documentation required before commencement with Works execution are:
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)
- Clause 5.3.1: The contractor shall commence executing the work within 28 days of the Commencement date.
- Clause 5.3.2: The time to submit the documentation required before commencement with Works execution is 14 days
- Clause 5.5.1: The Works shall be completed within **6 months** including special non-working days and the year-end break.
- Clause 5.6.2.5: The contractor shall make allowance for the following requirements in his programme:
(a) Normal inclement weather restrictions.
- Clause 5.8.1: Special non-working days are Sundays and the following statutory public holidays as declared by National or Regional 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 including the annual year-end shutdown periods as recommended by the South African Federation of Civil Engineering Contractors, and which commence before the Completion Date.
- Clause 5.11.2: With reference to clause 5.5.1 the client reserves the right to execute suspension of the works, or any part thereof in accordance with clause 5.11.2.
- Clause 5.13.1: The penalty for failing to complete the works is 0.05 % of the Total Tender Sum per Calendar Day
- Clause 5.16.3: The latent defect period is 10 years, commencing on the day after the date of certification of Practical Completion.
- Clause 6.2.1: The Liability of the Guarantee shall be 10% of the Accepted Tender Sum.
- Clause 6.5.1.2.3: The percentage allowance to cover overhead charges is 15%
- Clause 6.8.2: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:

$$(1 - x) * [(aLt/Lo) + (bEt/Eo) + (cMt/Mo) + (dFt/Fo) - 1]$$

rounded off to the fourth decimal place
Coefficients for calculating Contract Price Adjustment Factor shall be:
Value of x is 0.10
-

a = 0.20
b = 0.35
c = 0.35
d = 0.10

“L” is the “Labour Index” and shall be the “Consumer Price Index – Geographical Indices for Mpumalanga” In Release P 0141 Table A.

“P” is the “Plant Index” and shall be the “Civil Engineering Plant and Equipment” index as published in the Statistical Release P0151 in table 4 of Statistics South Africa.

“M” is the “Materials Index” and shall be the price index for “Civil Engineering Materials (excluding Bitumen)” as published in the Statistical Release P0151 in table 6 of Statistics South Africa.

“F” is the “Fuel Index” and shall be the index for “Diesel” as published in Statistical Release P0142 Table 1 of Statistics South Africa.

The suffix “o” denotes the basic indices applicable to the base month. The suffix “t” denotes the current indices applicable to the month in which the last day of the period falls to which the relevant payment certificate relates.

If any index relevant to any particular certificate is not known at the time when the certificate is prepared, the Engineer shall estimate the value of such index. Any correction, which may be necessary when the correct indices become known, shall be made by the Engineer in subsequent payment certificates.

The base month is: “the month prior to the closing of the Tender”.

- Clause 7.8.1: The Defects Liability Period is applicable to this contract for the duration of 12 months measured from the date of the Certificate of Completion.
- Clause 6.10.1.5: The percentage advance on materials not yet built into the Permanent Works is **80 %**.
- Clause 6.10.3: The limit of the retention money is **10%**.
Half will be released after practical completion and half after the defects liability period
- Clause 8.6.1.1.3: The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is **R 1 000 000.00**.
- Clause 8.6.1.2: Special risk insurance issued by SASRIA is required
- Clause 8.6.1.3: The limit of indemnity for liability insurance is **R 5 000 000.00** for any single liability claim.
- Clause 10.3.2: Dispute Resolution shall be by amicable settlement.
- Clause 10.5.3: The number of adjudication board members to be appointed is one (1).

C1.2.2: PART 2: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA BY THE CONTRACTOR								
Clause 1.1.1.9:	Name of Contractor:.....								
Clause 1.2.1.2:	Address of the Contractor:								
	<table><thead><tr><th><u>Physical:</u></th><th><u>Postal:</u></th></tr></thead><tbody><tr><td>.....</td><td>.....</td></tr><tr><td>.....</td><td>.....</td></tr><tr><td>.....</td><td>.....</td></tr></tbody></table>	<u>Physical:</u>	<u>Postal:</u>						
<u>Physical:</u>	<u>Postal:</u>								
.....									
.....									
.....									
	E-Mail:								
	Telephone No: Fax No:								

C1.2 CONTRACT DATA

PART 2: DATA PROVIDED BY THE CONTRACTOR

Clause 6.8.3: The variation in cost of all special materials is to be provided in the table SM1 for 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.

TABLE 1: SPECIAL MATERIALS

Special Materials	Unit*	Rate or Price for the base month
.....		
.....		
		
		
		
		
		
		
		
		

* 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:

Clause 4.4.3: **Selection of Sub-Contractors**

The Tenderer shall list on FORM A10 the Subcontractors and Suppliers whom he intends to appoint in respect of the various specialist items of work to be done or goods supplied on this contract. Alternatives may be mentioned.

The Tenderer shall state whether he intends to carry out any specialised work or supply of goods himself.

Acceptance of this tender shall not be construed as approval of all or any of the listed specialist Subcontractors or Suppliers. Should any of or all of the specialist Subcontractors or Suppliers 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 or Supplier not listed below being approved by the Employer.

The sub-contractors listed on FORM A10 exclude the identified local emerging contractors who will be identified by the Employer.

Signed on behalf of Tenderer:

.....

C1.3 FORMS OF SECURITIES

FORMS FOR COMPLETION BY THE CONTRACTOR

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

Form	Page
C1.3.1 Form of Guarantee	F.2
C1.3.2 Agreement with Adjudicator	F.5
C1.3.3 Agreement in terms of the Occupational Health and Safety Act	F.7
C1.3.4 Blasting Indemnity	F.9

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

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

PRO FORMA

C1.3.1 Form of Guarantee

For use with the General Condition for Contract for Construction Works, Second Edition, 2015

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

Physical address:

"Employer" means:

"Contractor" means:

"Engineer" means:

"Works" means:

"Site" means:

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

"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:

"Expiry Date" means:

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate on Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:

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

-
7. Where the Guarantor has made payment in terms of 5, 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 this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance 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. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
 9. Payment by the Guarantor in terms of 5 will only be made against the return of original Performance Guarantee by Employer.
 10. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
 11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
 12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
 13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
 14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's 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).....

Capacity.....

Guarantor's signatory (2).....

Capacity.....

Witness signatory (1).....

Witness signatory (2).....

C1.3.2: AGREEMENT WITH ADJUDICATOR

This agreement is made on the.....day of 20.....between: the Employer
(name of company / organisation).....
of (address).....

.....and the
Contractor
(name of company / organisation)
of (address).....

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

and

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

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

Disputes or differences may arise/have arisen* between the Parties under a Contract dated.....
and known as Contract No.....

(Contract
title).....

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

IT IS NOW AGREED as follows:

1. The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
2. The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
3. The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.
4. The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.
5. The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

PART C1: AGREEMENT AND CONTRACT DATA
BID No: DHS-223-24-MP

SIGNED by:

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

Name: **Name:** **Name:**

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

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

the **Adjudicator** in the duly
presence of on behalf of the **First**

Witness: **Witness:** **Witness:**
(Signature)..... (Signature)..... (Signature).....

Name: **Name:** **Name:**

Address: **Address:** **Address:**

.....

.....

Date: **Date:** **Date:**

C1.3.3: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between **Mpumalanga Department of Human Settlements**

(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 authorised 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

BID No:.....

.....

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 **CONSULTING ENGINEERS** 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.

PART C1: AGREEMENT AND CONTRACT DATA
BID No: DHS-223-24-MP

-
4. The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with 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 it 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 atfor 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

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C.1.3.4 BLASTING INDEMNITY

Contract No. _____ Given by _____

*Company Registration No. _____

Address _____

a *Company incorporated with limited liability according to the company laws of the Republic of South Africa, *Partnership, *Close Corporation, *Public Company (hereinafter called the Contractor),

represented herein by _____ in his capacity as the Contractor's
_____ duly authorised hereto by a resolution of the Contractor dated
_____ a certified copy of which resolution is attached to this Indemnity.

WHEREAS the Contractor has entered into a Contract with the Mpumalanga Department of Human Settlements (hereinafter called the Company) for,

_____ and the Company requires this Indemnity from the Contractor

NOW THEREFORE THIS DEED WITNESSETH that the Contractor does hereby indemnify and hold harmless the Company in respect of all loss or damage that may be incurred or sustained by the Company by reason of or in any way arising out of or caused by blasting operations that may be carried out by the Contractor in connection with the aforementioned Contract and also in respect of all claims that may be made against the Company in consequence of such blasting operations, by reason of or in any way arising out of any accidents or damage to persons, life or property or any other cause whatsoever, and also in respect of all legal or other expenses that may be incurred by the Company in examining, resisting or settling any such claims; for the due performance of which the Contractor binds itself according to law.

THUS DONE AND SIGNED for and on behalf of the Contractor at _____ on the
_____ day of _____ 20____ in the presence of the subscribing witnesses.

AS WITNESSES

1. _____

SIGNATURE

2. _____

DESIGNATION OF SIGNATORY

*Delete which does not apply

PART C2: PRICING DATA

PRICING INSTRUCTIONS	1
BILL OF QUANTITIES	4

PRICING INSTRUCTIONS

- 1 For the purposes of this bill of quantities, the following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work as defined in the standard specifications or the project specifications.

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

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

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

Lump Sum: An amount tendered for an item, the extent of which is described in the bill of quantities, the specifications or elsewhere, but of which the quantity of work is not measured in units.

- 2 This bill of quantities forms part of the contract documents and must be read in conjunction with all the other documents comprising the contract documents.

- 3 The quantities set out in the bill of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the bill of quantities, will be used to determine payments to the contractor.

The validity of the contract shall in no way be affected by differences between the quantities in the bill of quantities and the quantities finally certified for payment. Work is valued at the rates or lump sums tendered.

- 4 The tenderer shall fill in a rate or a lump sum for each item where provision is made for it even where no quantities are given. Items against which no rate or lump sum has been entered in the tender will not be paid for when the work is executed, as payment for such work will be regarded as being covered by other rates or lump sums in the bill of quantities. The tenderer shall fill in a rate against all items where the words "rate only" appears in the amount column. Although no work is foreseen under such item and no quantities are consequently given in the quantity column, the tendered rate shall apply should work under this item actually be required. Tenders should note the provisions of paragraph 12 of this preamble.

If the tender should group a number of items together and tender one lump sum for each group of items, this single tendered lump sum shall apply to that group of items and not to each individual item, or should he indicate that full compensation for any item has been included in the rate for another item, the rate for the item included in another item shall be deemed to be nil.

The tendered lump sums and rates shall be valid irrespective of any change in the

quantities during the execution of the contract.

- 5 The amount of work or the quantities of material stated in the bill of quantities shall not be considered as restricting or extending the amount of work to be done or quantity of material to be supplied by the contractor.
- 6 The statement of quantities of material or the amount of work in the bill of quantities shall not be regarded as authorisation for the contractor to order material or to execute work. The contractor shall obtain the engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements in this regard.
- 7 The short descriptions of the payment items in the bill of quantities are only given to identify the items and to provide specific details. Reference shall, inter alia, be made to the drawings, standard specifications, project specifications, general conditions of contract and special conditions of contract for more detailed information regarding the extent of work entailed under each item.
- 8 The provisions of clause of the general conditions of contract Third Edition 2015 shall apply to provisional sums and prime cost sums.
- 9 Subject to the conditions stated in paragraph 10 below, the rates and lump sums filled in by the tenderer in the bill of quantities shall be final and binding with regard to submitting the tender, and may not be adjusted should there be any mistakes in the extensions thereof and in the total sums appearing in the tender. Should there be any discrepancies between the tender sum and the correctly extended and totalled bill of quantities, the rates will be regarded as being correct, and the employer shall have the right to make adjustments to the tender sum to reconcile the tender sum with the total of the bill of quantities. In such an event the contractor will be consulted but, failing agreement between the parties, the decision of the employer shall be final and binding. Adjustment of the tender sum will take place prior to the signing of the contract. In their own interest tenderers must make doubly sure of the correctness of their tendered rates, the extensions and the tender sum.
- 10 A tender may be rejected if the unit rates or lump sums for some of the items in the bill of quantities are, in the opinion of the employer, unreasonable or out of proportion.

- 11 The units of measurement indicated in the bill of quantities are metric units

The following abbreviations are used in the bill of quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre pass
ha	=	hectare
m ³	=	cubic metre
m ³ km	=	cubic metre kilometre
l	=	litre
kl	=	kilolitre
kg	=	kilogram
t	=	ton (1000 kg)
No	=	number
mn	=	meganewton
mn-m	=	meganewton-metre
%	=	per cent
kW	=	kilowatt
Kn	=	kilonewton
PC sum	=	prime cost sum
Prov sum	=	provisional sum

- 12 All rates and sums of money quoted in the bill of quantities shall be in rands and whole cents. Fractions of a cent shall be discarded
- 13 Civil engineering work has been drawn up in accordance with the provisions of the latest edition of SABS 1200 Standardised Specifications for Civil Engineering Works.

PART C3:

SCOPE OF WORK

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C3.1 STANDARD SPECIFICATIONS

Although not bound in nor issued with this document, the following standardised specifications will form part of the contract document:

SABS/SANS 1200.

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396: 2003:	Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures
SANS 1914-4 (2002):	Targeted Construction Procurement (local resources)
SANS 1921 – 1 (2004):	Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:
SANS 1921-2 (2004):	Construction and Management Requirements for Works Contracts; And Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.

PART C3: SCOPE OF WORKS
BID NO: DHS-223-24-MP

C3.2 PROJECT SPECIFICATIONS

PART A: GENERAL

- | | |
|------|--|
| PS-1 | Project Description |
| PS-2 | Description of the Site and Access |
| PS-3 | Details of the Works |
| PS-4 | Construction Management Requirements |
| PS-5 | Management of the Works |
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| PS-9 | Generic Labour-Intensive Specification |

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

- | | |
|----|--|
| B1 | Project Specifications Relating to the Standard Specifications and Additional Specifications |
|----|--|

PART A: GENERAL

PS-1 PROJECT DESCRIPTION

Department of Human Settlements will fund the refurbishment of the bulk pipeline from Point B to Costas, where Emalahleni Local Municipality will tee off from this pipeline to supply bulk raw water to Point E. Point E is the bulk water storage reservoir complex dedicated to service the settlements of Empumelelweni, Kwa-Guqa and Hlalanikahle. There is currently not enough bulk water supplied to this point, which is resulting in rotational water supply. The aim of this project is to refurbish the pipeline from Point B to Highveld Steel to ensure adequate water supply at the tee-off for the municipality.

PS-2 DESCRIPTION OF THE SITE AND ACCESS

Empumelelweni is located within the jurisdictional boundaries of Emalahleni Local municipality and Nkangala District Municipality of Mpumalanga Province. The geographical position of the site is S25°50'58" (Latitude) and E29°05'10" (Longitude), which is approximately 12 kilometres West of Emalahleni.

PS-3 DETAILS OF THE WORKS

3.1 General

- Replace approximately 3431m of 500mm steel pipe with HDPE PN16 using stub flange connections.
- Reconfigure pipework at Point E to accommodate package plant
- Installation of discard pipeline

3.3 Temporary Works

The Contractor shall, as relevant,

- a) provide temporary drainage works, temporary pumps and other equipment as might be necessary for the protection, draining and dewatering of the works; and
- b) Construct and maintain haulage, temporary access and construction roads, subject to the approval of the Employer, and permit the Employer, other Contractors, statutory bodies or any other person who might require legitimate access to or through the site for executing legitimate business, free and unhindered usage of such roads.
- c) Temporary water connections, Contractor's offices, storage sheds, latrines, barricading of Works shall be in an approved location and subject to the approval of all authorities concerned.
- d) Safety and Security of the Contractor's temporary works shall be at the Contractor's discretion.
- e) The camp(s) shall be adequately guarded during or outside working hours.

Drawings

The list of drawings is included in **PART C4** of this document and is subject to revision. The revised drawings shall be issued timeously by the Engineer.

PS-4 CONSTRUCTION MANAGEMENT REQUIREMENTS

4.1 General

The Contractor is referred to SANS 1921: 2004 parts 1, 2 and 3: Construction and Management Requirements for Works Contracts. These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

4.1.7 Drawings (*Read with SANS 1921 – 1: 2004 clauses 4.1.7; 4.1.11 & 4.1.12*)

The requirements for drawings, information and calculations for which the Contractor is responsible are: *None*.

The reduced drawings which form part of the tender documents shall be used for tendering purposes only.

The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall, at his own expense, produce there from all further paper prints required for the construction of the work.

At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided or made, during the contract period. Any information which the Contractor has control over and which is required by the Resident Engineer to complete the as-built drawings shall be made available to the Resident Engineer before the completion certificate is issued.

Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any structural construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions.

Any destination names on road signs which may be indicated on the drawings are subject to confirmation by the Engineer before these signs are manufactured.

4.2 Responsibilities for design and construction

Consulting Engineer

The Consulting engineer responsible for the design in accordance with the specification is: Serodime Consulting Engineers CC.

4.3 Planning and Programme (*Read with SANS1921-1:2004 clause 4.3*)

Preliminary programme

The Contractor shall include with his tender a preliminary programme on the prescribed form to be completed by all Tenderers. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion as stated in the Contract Data.

Tenderers may submit tenders for an alternative Time for Completion in addition to a tender based on

the specified Time for Completion. Each such alternative tender shall include a preliminary programme similar to the programme above for the execution of the works and shall motivate his proposal clearly by stating all the financial implications of the alternative completion time.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to normal adverse weather conditions and special non-working days as specified in the Special Conditions of Contract, in the Project Specifications and in the Contract Data.

The following constraints shall be considered in preparing the preliminary construction programme which must be submitted with the Tender. These same constraints shall apply to the final construction programme.

1. The Contract time is **6 months**. Plant and personnel requirements to complete the project within the allocated duration must be incorporated in the Tender.
2. The relocation of services
3. Ancillary works by Emerging Contractors

Programme in terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract 2015 edition, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the tender shall be used as basis for this programme. The Contractor's attention is also drawn to clause 5.7.1 of the General Conditions of Contract.

4.4 Quality Assurance (QA) *(Read with SANS 1921 – 1: 2004 clause 4.4)*

The Contractor will be solely responsible to produce work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment and tools are available to control the quality of his own workmanship in accordance with his QA-system. His attention is drawn to the fact that it is not the duty of the Engineer or the Engineer's representative to act as foreman or surveyor.

4.6 Management and disposal of water *(Read with SANS 1921 - 1 : 2004 clause 4.6)*

The Contractor shall pay special attention to the management and disposal of water and stormwater on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

4.10 Earthworks, Borrow pits and spoil areas *(Read with SANS 1921 - 1 : 2004 clause 4.10)*

The borrow pits to be used for this contract shall be pointed out at the Site Inspection. The Contractor shall be permitted to use only those borrow pits approved by the Engineer. Borrow pit investigation and material testing as incorporated in the design, is given in good faith. The contractor shall confirm this material quality prior to the material's use on site.

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The spoil sites shall be determined on site in conjunction with the Engineer, the PLC, and the local communities. The Contractor shall be permitted to use only those spoil areas approved by the Engineer. Should the Contractor wish to use any other tip area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer and the landowner.

4.11 Testing (*Read with SANS 1921 – 1 : 2004 clause 4.11*)

Process control

The Contractor shall arrange for all tests required for process control to be done by a laboratory acceptable to and approved by the Engineer.

The Contractor may establish his own laboratory on site or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

Acceptance control

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer may have further control tests carried out by a laboratory of his choice. The cost of such additional tests will be covered by a provisional sum provided in the schedule of quantities, but tests that failed to confirm compliance with the specifications, will be regarded as process control and for the account of the Contractor.

4.14 Site Establishment (*Read with SANS 1921 - 1 : 2004 clause 4.14*)
Contractor's camp site and depot

The Contractor is responsible to provide a suitable site for his camp and to provide accommodation for his personnel and labourers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor.

The chosen site shall be subject to the approval of the Engineer, the local Tribal Authorities and the Project Steering Committee (PSC). Possible locations for a campsite shall be pointed out at the Site inspection. The Contractor shall conform to all local authority, environmental and industrial regulations.

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

The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost for the Employer. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team.

Accommodation of Employees

No employees except for security guards will be allowed to sleep or be accommodated on the site in urban areas.

No housing is available for the Contractor's employees and the Contractor shall make his own

arrangements to house his employees and to transport them to site.

No informal housing or squatting will be allowed.

The Contractor shall provide the necessary ablution facilities at his camp site and the site of the works for the use of his employees. Chemical toilets only will be allowed where temporary facilities have to be provided.

4.15 Survey beacons *(Read with SANS 1921 - 1 : 2004 clause 4.15)*

The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

4.17 Existing Services *(Read with SANS 1921 - 1 : 2004 clause 4.17)*

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

Services belonging to the following service owners are indicated on the drawings:

<u>Service owner</u>	<u>Type of service</u>
Eskom/municipality	Electricity lines

A provisional amount is included in the bill of quantities for the protection of services.

Prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners/farmers for access to the pipeline servitude. The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services.

4.18 Health and Safety *(Read with SANS 1921 - 1: 2004 clause 4.18)*

4.18.1 General statement

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons who may be directly affected by his activities, are not exposed to hazards their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHS Act 1993 Construction Regulations 2014 issued on 07 February 2014 by the Department of Labour.

For this contract, the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act in the form as included in Part V of the Returnable Schedules.

Health and Safety Specifications and Plans

a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification will be included in the tender documents as part of the Project Specifications.

b) Tenderer's Health and Safety Plan

The Tenderer shall submit with his tender his own documented Health and Safety Plan he proposes to implement for the execution of the work under the contract. His Health and Safety Plan must at least cover the following:

- (i) a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 7 to 28;
- (ii) pro-active identification of potential hazards and unsafe working conditions;
- (iii) provision of a safe working environment and equipment;
- (iv) statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (Regulation 5);
- (v) monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 6 and other applicable regulations; and
- (vii) details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

Cost of compliance with the OHSA Construction Regulations

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract.

Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

4.19 Management of the environment (*Read with SANS 1921 - 1 : 2004 clause 4.19*)

Respect for the environment is an important aspect of this contract and the Contractor shall pay special attention to the following:

(a) Natural Vegetation

The Contractor shall confine his operation to the limits of the road reserve for the purpose of constructing the works and where applicable detours, shall be sited in consultation with the Engineer and the local communities.

Only those trees and shrubs directly affected by the works and such others as the Engineer may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Engineer.

(b) Fires

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire, the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

(c) Environmental Management Plan

In addition to the above all requirements according to the Environmental Management Plan as detailed in C3.3, Particular Specifications, will be adhered to.

PS-5 MANAGEMENT OF THE WORKS

5.1 Applicable SANS 1921 standards

The following parts of SANS 1921 Construction works standards and associated specification data are applicable to the works:

- 1) SANS 1921-1: General engineering and construction works
- 2) SANS 1921-2: Accommodation of traffic
- 3) SANS 1921-6: HIV/Aids awareness

The abovementioned South African National Standards make several references to the Specification Data for data, provisions and variations that make these standards applicable to this contract. The Specification Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and these standards.

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Each item of Specification Data given below is cross-referenced to the clause in the standard to which it mainly applies.

SANS 1921-1, Construction and management requirements for works contracts – Part 1: General engineering and construction works	
Clause	Specification data
Essential data	
4.1.7	There are no requirements for drawings, information and calculations for which the contractor is responsible
4.2.1	The responsibility strategy assigned to the contractor for the works is A .
4.2.2	The structural engineer is Serodime Consulting Engineers (Pty) Ltd.
4.3.1	The planning, programme and method statements are to comply with the following: a) The Contract time is 6 months. b) Plant and personnel requirements to complete the project in 6 months shall be incorporated. c) A high standard of traffic accommodation (if required). d) The relocation of services (if required). e) Ancillary works by Emerging Contractors. State requirements for format of programme, level of detail, critical path activities and their dependencies, frequency of updating, etc., if not provided in the contract data. Provide particulars of phased completion, programme constraints, milestone dates for completion, etc., as necessary. State requirements for sequencing, as required. State any requirements for software for programmes.
4.3.3	The notice period for inspection is 2 Days
4.12.2	The samples of materials, workmanship and finishes that the contractor is to provide and deliver to the employer are: None

PART C3: SCOPE OF WORKS

BID NO: DHS-223-24-MP

4.14.3	The office accommodation, equipment, accommodation for site meetings and other facilities for use by the employer and his agents are: 1) Site office which shall be used for site meetings and for the contractor's use. Such an office shall comprise a minimum of 48m² in area and 3 m high, be ventilated, have good lamination, must be reasonably sound proof, and have a hard floor construction. It shall be furnished with a desk on which drawings can be rolled open and on which there is sufficient writing space and sufficient temporary chairs or benches to accommodate all persons present at site meetings. 2) Engineer's supervisory staff shall be provided with rented accommodation. 3) Engineer's supervisory staff shall be provided with cellular phones. 4) The office of the engineer shall be equipped with 2 laptop computers and colour laser printer. 5) The office of the engineer shall be equipped with a copier, fax and e-mail facilities to facilitate communication. 6) The office of the engineer shall be equipped with HVAC facilities necessary for the climatic condition. 7) The office of the engineer shall be equipped with two office desks and chairs as well as filing units for files and drawings. 8) A board room will be provided and equipped to accommodate the employer, his agent and the contractor in meetings.
4.14.5	The Contractor is required to provide latrine and ablution facilities.
4.14.6	The requirements for the provision and erection of contract sign boards as specified by the client, and included in the drawings are: 1) The boards must comply with the official standard type signboard of the Employer and be at least 2750 x 1800 mm high. Two (2) boards are required. 2) The boards must be constructed with a firm flat exposed face using suitable material of firm construction, painted and lettered according to the standard drawings available from the Employer on request and mounted on sturdy pipe-standards at a height of 1800 mm above natural ground level.
4.17.1	The requirements for the termination, diversion or maintenance of existing services are: The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced. The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur. Prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners as to whether there are any other known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Engineer immediately. The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services. The Contractor shall fulfil all wayleaves requirements/permits prior to and during construction.

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BID NO: DHS-223-24-MP

4.17.3	Services which are known to exist on the site are: 1.... Electricity poles 2.... Fences 3.... Water pipes										
4.17.4	The requirements for detection apparatus are: Where applicable, the Contractor shall use appropriate detection equipment to locate underground services. The Engineer shall be informed immediately of such activities.										
Variations											
None											
Additional clauses											
1 Site meetings and procedures The Employer's Representative and the Contractor shall hold meetings relating to the progress of the works at regular intervals and at other such times as may be necessary. The Contractor shall attend all site meetings and shall ensure that all persons under his jurisdiction are notified timeously of all site meetings should the Employer's Representative require their attendance at such meetings. The Contractor shall keep on site a set of minutes of all site meetings, daily records of resources (people and equipment employed), a site instruction book, a complete set of contract working drawings and a copy of the procurement document and make these available at all reasonable times to all persons concerned with the contract. 2 Water and electricity The Employer does not warrant that any water supply or electricity supply that may exist is adequate for the proper execution of the works. The responsibility strategies in terms of the tabulation below that will apply to the contract is: <table border="1"> <thead> <tr> <th>Service</th><th>Contractor responsibility</th></tr> </thead> <tbody> <tr> <td>Water</td><td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections and purchase water from the local authority for the works at his own cost.</td></tr> <tr> <td>Electricity</td><td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity from the local authority / ESKOM for the works at his own cost.</td></tr> <tr> <td>Telecommunication</td><td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary telecommunication connections and installations and purchase bandwidth/units from the supplier for the works at his own cost.</td></tr> <tr> <td>Sanitation</td><td>The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections for the works at his own cost. The contractor shall ensure the provision of this service at the site camp and at accommodation of contractor's employees</td></tr> </tbody> </table>		Service	Contractor responsibility	Water	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections and purchase water from the local authority for the works at his own cost.	Electricity	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity from the local authority / ESKOM for the works at his own cost.	Telecommunication	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary telecommunication connections and installations and purchase bandwidth/units from the supplier for the works at his own cost.	Sanitation	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections for the works at his own cost. The contractor shall ensure the provision of this service at the site camp and at accommodation of contractor's employees
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Water	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections and purchase water from the local authority for the works at his own cost.										
Electricity	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity from the local authority / ESKOM for the works at his own cost.										
Telecommunication	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary telecommunication connections and installations and purchase bandwidth/units from the supplier for the works at his own cost.										
Sanitation	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections for the works at his own cost. The contractor shall ensure the provision of this service at the site camp and at accommodation of contractor's employees										

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		contractor's employees.	
	Waste disposal	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary waste disposal means for the works at his own cost.	
	Security services	The Contractor is to provide, and remove and make good upon completion, all the necessary temporary security arrangements and purchase such goods and services for the works at his own cost.	

Clause	Specification Data
Essential Data:	
5.1	The depth of trenches which are to be excavated by hand is 1.5 metres.
Additional clauses:	
1	Stone pitching and rubble concrete masonry All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, shall be collected, loaded, off loaded and placed by hand. Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m. Grout shall be mixed and placed by hand.
2	Manufactured Elements Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. In addition, the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper hand hold on them.
SANS 1921-6, Construction and management requirements for works contracts – Part 6: HIV/AIDS awareness.	
4.2.1(a)	A qualified service provider is a service provider that is one that is accredited or provisionally accredited training service provider in the HIV/AIDS field. A list of accredited service providers can be obtained from the Construction SETA (CETA) (Tel: 011-265 5900), Health and Welfare SETA (HWSETA) (011-622 6852) or on the Health and Welfare SETA website: www.hwseta.org.za .
4.2.1(a)	The HIV/AIDS awareness programme is to be repeated at three (3) month intervals throughout the duration of the contract. (Two times in total, including the initial one at the start of the contract.)
Additional clauses	
	The duration of each workshop is not to be less than 2 ½ hours .

5.2 Particular / generic specifications

The management of the site shall be in accordance with the provisions of the South-African National Standards (SABS).

5.3 Recording of weather

The Contractor shall erect an effective rainfall gauge on the site and record the daily rainfall figures in a book. Such book shall be handed to the employer's representative for his signature no later than 12 days after rain that is considered to justify an extension of time occurs.

5.4 Unauthorised persons

The Contractor shall keep unauthorized persons from the works at all times. Under no circumstances may any person except guards be allowed to sleep on the building site.

5.5 Management meetings

Project management meetings will be held once a month. This meeting will be attended by the representatives of the Employer, the representatives of the contractor as well as the representatives of the consultant.

All representatives at the meeting(s) must be delegated to take binding decisions, although it may be sometimes necessary to refer some decisions to higher authority.

Any claim or intention to claim must be brought to the attention of the Employer / Engineer / consultant in writing and within 28 days of the cause of the delay or where contractually required any specific shorter period. Not complying with this instruction / procedure will be regarded as relinquishment of the claim.

All important matters must be brought to the attention of the meeting timorously and supported by a written notification.

5.6 Forms for contract administration

Forms for contract administration will be completed by the consultant's staff on site.

5.7 Electronic payments

The contractor is to fulfil the electronic payment requirements of the Client to be paid electronically.

The Contractor is also advised to pay all his staff electronically to avoid handling large quantities of money on site.

5.8 Daily records

The contractor is required to keep a site diary in which to record daily occurrences on site.

5.9 Payment certificates

The Contractor shall be entitled to receive a monthly progress payment, which shall be based on a progress on site and payment certificate issued by the Consultant. The Contractor shall on monthly basis submit a monthly statement of all moneys due to him. On such a statement he shall also include the all materials on site. The statement submitted by the contractor shall indicate measured quantities. The consultant shall submit to the Mpumalanga Department of Human Settlements a signed certificate which indicates the amount due to the contractor.

PS-6 PROCUREMENT***Preferential procurement procedures***

Direct preference is given based on the Targeted Enterprise status of the tenderer. Functionality points are allocated based on the Contract Participation Goal offered in terms of the engagement of Local Enterprises and Local Labour.

Scope of mandatory subcontract work

It is mandatory to subcontract work of at least thirty percent (30%) of the value to the local enterprises to achieve the Contract Participation Goal. The choice of who and for which portions of the work he does is to be agreed with the Project Steering Committee or the Community Forum in liaison with the Liaison Officer and the Ward Councillor. The Contractor commits himself to work closely with the Community Forum, who will compile a local resource database to assist the Contractor in maximizing the use of local resources. In inviting local enterprises to tender for subcontracted work, the Contractor shall include the local enterprises identified by the Community Forum, except if they are deemed by the Contractor to be unfit to provide the service or deliver the goods at the required quality, considering the entrepreneurial training available to empower them. In the event of a dispute between the Community Forum and the Contractor as to the ability of an identified service local enterprise for a particular subcontract, the final choice shall rest with the Contractor, following discussions with the CLO and the Engineer.

PS-7 CONSTRUCTION***Applicable SANS 2001 standards for construction works***

There are no SANS 2001 standards applicable.

Applicable national and international standards

Although not bound in nor issued with this document, the following standardised specifications will form part of the contract document: SABS/SANS 1200.

Applicable SA National Standards (SANS)

Reference is made to certain provisions of:

SANS 1921-5	Construction and management requirements for works contracts:
	Earthworks activities which are to be performed by hand
SANS 1914-5	Targeted construction procurement: Participation of targeted labour

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

Office Address:

1 Dr Lategan
Road Groenkloof
PRETORIA

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Private Bag X191
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0001

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Email: sales@sabs.co.za

PS-8 EPWP LABOUR- INTENSIVE SPECIFICATION**EPWP LABOUR-INTENSIVE SPECIFICATION****Employer's objective**

The objective of the Employer is to optimise the usage of local labour where possible.

8.1 Labour-intensive works

Labour-intensive works comprise the activities described in the SANS 1921-5, Earthworks *activities which are to be performed by hand*, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this scope of work.

8.1.1 Labour-intensive competencies of supervisory and management staff

Contractors having a CIDB contractor grading of 6CE and higher shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the Contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, having a Contractor grading designation of 1CE, 2CE, 3CE and 4CE shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such Contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	} any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	

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Site Agent / Manager (i.e the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard
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8.1.2 Employment of unskilled and semi-skilled workers in labour-intensive works

8.1.2.1 Requirements for the sourcing and engagement of labour.

8.1.2.1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS1914-5, Participation of Targeted Labour.

8.1.2.1.2 The rate of pay set for the SPWP is as determined by the Civil Engineering Industry task rates for the Mpumalanga area.

8.1.2.1.3 Tasks established by the contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.

8.1.2.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 8.1.2.1.3.

8.1.2.1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

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

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

- a) 60 % women;
- b) 20% youth who are between the ages of 18 and 25; and
- c) 2% on persons with disabilities.

8.1.2.2 Specific provisions pertaining to SANS 1914-5

8.1.2.2.1 Definitions

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

8.1.2.2.2 Contract participation goals

8.1.2.2.2.1 Contract participation goals have been specified for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

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

8.1.2.2.3 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

8.1.2.2.4 Variations to SANS 1914-5

8.1.2.2.4.1 The definition for net amount shall be amended as follows:

Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.

8.1.2.2.4.2 The schedule referred to in labour intensive construction shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

8.1.2.2.5 Training of targeted labour

8.1.2.2.5.1 The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

8.1.2.2.5.2 The cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

8.1.2.2.5.3 A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works - Cinderella Makunike, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel:083 677 4026.

8.1.2.2.5.4 The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he/she is employed for 4 months or more.

8.1.2.2.5.5 The contractor shall do nothing to dissuade targeted labour from participating in training programmes.

8.1.2.2.5.6 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 8.1.2.2.5.4 above.

8.1.2.2.5.7 Proof of compliance with the requirements of 8.1.2.2.5.2 to 8.1.2.2.5.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

PS-9 GENERIC LABOUR- INTENSIVE SPECIFICATION

The Generic Labour-intensive specification below (informed by SANS 1921-5, Construction and management requirements for works contracts - Part 5: Earthworks) covers activities which are to be performed by hand and should be included in the scope of works without amendment or modification as set out below.

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- ☐ trenches having a depth of less than 1.5 metres
- ☐ stormwater drainage
- ☐ roads
- ☐ sidewalks and non-motorised transport infrastructure
- ☐ water and sanitation

Precedence

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

Hand excavatable material

Hand excavatable material is:

a) granular materials:

- i) whose consistency when profiled may in terms of table 2 be classified as very loose, loose, medium dense, or dense; or
- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) cohesive materials:

- i) whose consistency when profiled may in terms of table 2 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
- ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note

- 1) A boulder is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

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Table 2: Consistency of materials when profiled			
GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary
Dense	Very high resistance to penetration by the sharp end of a geological pick; requires many blows for excavation.	Stiff	can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavatable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers;

- a) to 90% Mod AASHTO;
- b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All excavatable material including topsoil classified as hand excavatable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand. Any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

Clearing and grubbing

Grass and bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Loading

All loading shall be done by hand. Haulage equipment should be selected in a manner that allows loading by hand to the greatest extent possible.

Haul

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilised for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved. Appropriate rollers should be used where higher (than can be achieved by hand) levels of compaction are required or for large areas.

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Grassing

All grassing shall be undertaken by sprigging, sodding, or seeding by hand.

Stone pitching and rubble concrete masonry

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must be collected, loaded, off loaded and placed by hand. Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m. Grout shall be mixed and placed by hand.

Manufactured Elements

Elements manufactured or supplied by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. Where the mass of an element exceeds 55 kg, consideration should be given to the size of the element relative to its total mass related to the number of workers who would be needed to lift such mass.

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

Introductory Notes to Tenderer

This part of the project specifications deals with matters relating to the standard specifications. Where reference is made in the standard specifications to the project specifications this part shall also contain the relevant information e.g. the requirements where a choice of materials or construction methods are provided for in the standard specifications.

1. **In certain clauses the Standard Specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains some additional specifications required for this particular contract.**
2. **The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications where applicable. The number of a new clause or a new payment item which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by B followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications. New payment items introduced do not necessarily replace existing items which may still be used for works on any PART(S) of the project.**

PS A GENERAL AND PS AB ENGINEERS OFFICE

Clause in	VARIATION
SABS 1200A	

PS A 3 MATERIALS:**PS A 3.1 Quality of Materials and Workmanship:**

All materials used in the works shall, where such a mark has been awarded for a specific type of material, bear the SABS/SANS mark. All materials shall be new and of the best quality available unless otherwise specified.

All storage, handling, transport, erection or installation of plant, equipment and materials shall be carried out in accordance with the supplier's or manufacturer's instructions, provided that the Engineer may vary such instructions should he deem such variations necessary. Where supplier's or manufacturer's instructions are in conflict with the Specifications, the requirements of the Specifications shall apply unless otherwise agreed to by the Engineer. Any such conflict shall be brought to the attention of the Engineer by the Contractor.

PS A 5 CONSTRUCTION:**PS A 5.1.2 Preservation and Replacement of Beacons and Pegs subject to the Land Survey Act:**

Add the following:

c) Within one week of taking possession of the Site the Contractor shall satisfy himself that all reference pegs and other survey reference marks shown on the Drawings or advised by the Engineer, are in place. The Contractor shall immediately report any missing survey marks to the Engineer. Any survey marks not reported as missing shall be deemed to be in place.

d) The Contractor shall protect and reserve all survey marks for the duration of the Contract. Any survey marks (other than the pegs falling within the excavation lines shown on the Drawings) disturbed or removed during the course of the Contract without prior written consent of the Engineer, will be replaced at the Contractor's expense.

PS A 5.5 Dealing with water on works:

Add the following:

The Contractor shall at all times ensure that all open ends of pipes and branches are sealed off against the ingress of water.

PS A 8 MEASUREMENT AND PAYMENT:**PS A 8.4.2.1 f) Transport for Engineer**

LDV > 2000CC incl. fuel for 2000km and all maintenance cost

PS A 8.5 Sums stated provisionally by engineer

Add the following payment items to PS A 8.5:

PS A 8.5 (c) Provisional Sum for control testing to be carried out by an approved independent laboratory

The provisional sum shall be paid in accordance with the provisions of the General Conditions of Contract as amended if applicable.

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PS A 8.5 (d) Provisional Sum for staking and levelling to be carried out by an independent Engineering surveyor

The provisional sum shall be paid in accordance with the provisions of the General Conditions of Contract as amended if applicable.

PS A 8.5 (e) Community Liaison Officer

The contractor must pay a salary to a person appointed as the Community Liaison Officer for the project. The amount of payment and payment dates will be determined as soon as the CLO has been appointed.

PS A 8.5 (f) Pressure testing of existing water mains

The provisional sum shall be paid in accordance with the provisions of the General Conditions of Contract as amended if applicable.

PS A 8.5 (h) Engineer's accommodation

The provisional sum shall be paid in accordance with the provisions of the General Conditions of Contract as amended if applicable.

PS A 8.5 (i) Percentage mark-up

The tendered percentage is a percentage of the amount actually spent under the items agreed and shall include full compensation including profit etc. for providing equipment, if required, labour transport, supervision, accommodation of traffic and incidentals.

PS B GENERAL

Clause in	VARIATION
SABS 1200B	

PS B 3 FINISHING OF ROAD RESERVE

Shapes and drainage ditches shall be rounded as ordered. The newly constructed portion shall be adjusted as to harmonize with the existing landscape features. The transition to slope adjustments shall be gradual. Cleaning up of site, tamping of slopes.

PS C SITE CLEARANCE

Clause in	VARIATION
SABS 1200C	

PS C 3 MATERIALS:

PS C 3.1 Disposal of Material:

The freehaul shall be 7,0km.

PS C 5 CONSTRUCTION:

PS C 5.1 Areas to be cleared and grubbed:

The Contractor shall observe the restrictions in SABS 1200 DB.

PS C 5.2 Cutting of trees:

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PS C 5.2.1 Protection of Persons, Animals and Structures:

Before commencing work in any particular area the Contractor shall in conjunction with the Engineer's Representative compile a report on the state of repair of all adjoining fences and structures that could be affected by the Contractor's operations.

PS C 5.2.3.2 Individual trees:

The penalty shall be R1,000-00 per tree.

PS C 5.3 Clearing:

The width or area to be cleared shall be the width or area required by the Contractor for excavation, stockpiling of excavated material and construction activities, subject to the prior approval of the Engineer.

No structures, buildings, huts or other man made obstructions shall be cleared without the written consent of the Engineer.

The contractor shall, if required, leave undamaged all obstructions and vegetation further than 4 metres from the pipe centre line and 5 metres from a structure. Where obstructions and trees are closer than the aforementioned distances the Engineer shall direct whether these are to be removed or not. In the latter case, the Engineer shall decide on the additional compensation (if any) due to the contractor for not disturbing the obstruction.

All fencing materials shall be preserved for subsequent re-erection to the original standard by the Contractor. or be replaced by the Contractor at his own cost.

Prior to cutting an existing fence a straining post with stay shall be erected at the two ends of the opening and the existing wires shall be secured to these posts. The opening shall then temporarily be closed with a folding wire gate until completion of construction when the fence shall be reinstated between the two straining posts.

PS D EARTHWORKS

**Clause in SABS VARIATION
1200D**

PSD 3 MATERIAL

Add the following Sub-Clauses:

PSD 3.1 Classification for excavation purposes

PSD 3.1.2 Classes of excavation

(a) Soft excavation

Excavation of all material other than hard rock material, as specified in clause 3.1.2 (c), will be measured as soft excavation.

(b) Hard rock excavation

Delete the reference to boulder excavation in paragraphs (1) and (2).

PSD 5 CONSTRUCTION

PSD 5.2.2 Excavation

Add the following Sub-Clauses:

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PSD 5.2.2.5 Utilization of excavated material

Excavated material and material recovered from temporary work shall, in so far as it is suitable, be utilized for backfill. Material unsuitable for use as backfill or in excess of the quantity required to complete the backfill shall be spoiled or utilized as directed by the Engineer.

PSD 5.2.2.6 Excavation limits for payment purposes

For measurement and payment purposes, the limits of the excavations for structures shall be as shown on the Drawings.

Where no excavation limits are shown on the Drawings and the Engineer has decided that formwork has to be provided for the sides of a concrete member, the limits of the excavation for measurement and payment purposes shall be the vertical planes 0,5 m outside the perimeter of the concrete member for which the formwork is to be provided, and the founding level shown on the Drawings.

PSD 5.2.2.7 Over-excavation

Over excavation in hard material shall be backfilled with mass concrete as specified or as directed by the Engineer and shall be at the Contractor's expense.

PSD 5.2.2.8 Unsuitable material

Boulders, logs or any other unsuitable excavated material shall be taken to spoil.

Where, in the opinion of the Engineer, unsuitable material is encountered at founding level, such material shall be removed and replaced with foundation fill in accordance with the requirements of clause PSD 5.2.3.4 of this section and as directed by the Engineer.

PSD 5.2.2.9 Preparation of the founding surface

Where hard material suitable for founding is encountered at the founding level, it shall be cut and trimmed to a firm surface, either level, stepped or serrated, as may be required.

Where there are indications that the material at the founding level will be soft material or hard material that will deteriorate rapidly on exposure, the excavation of the final layer with a thickness of 150 mm shall be postponed until just before the blinding layer is placed.

Where shown on the Drawings or ordered by the Engineer, excavations shall be extended to a specified depth below the given undersides of the slabs and footings to make provision for the placing of a concrete blinding layer.

PSD 5.2.3.3 Backfill and fill near structures

(a) General

When placing backfill and fill, the following precautions shall be taken:

(i) In so far as it is possible, the material shall be placed simultaneously to approximately the same elevation on both sides of a structure or structural member where appropriate. If conditions require that backfill or fill be placed appreciably higher on one side than on the opposite side, the additional material on the higher side shall not be placed until authorized by the Engineer and preferably not until the concrete has been in place for 14 days, or until tests show that the concrete has attained sufficient strength to withstand any pressure safely that has been created by the backfill or fill or by the method of construction.

(ii) The material behind structural members restrained at the top by the superstructure, e.g. portal-type structures, shall be placed as stated on the Drawings or as directed by the Engineer.

(iii) The material behind the walls of concrete culverts shall not be placed until the top slab has been placed and cured, unless otherwise authorized by the Engineer.

(b) Backfill

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Excavated areas around structures, between the structure and the vertical walls of the surrounding excavation, shall be backfilled with approved material in horizontal layers not exceeding 150 mm in depth after compaction, to the level of the original ground surface or to the level specified on the Drawings. Each layer shall be moistened or dried to the optimum moisture content for the material and be compacted to a density of not less than 90 % of modified AASHTO density, except that, in a road prism, the material shall be compacted to a density of not less than 93 % of modified AASHTO density. In cases where structures are founded on backfill material, the density shall be as specified in the Project Specifications, but shall not be less than 95 % of modified AASHTO density.

(c) Prevention of wedge action

Before the fill in the space between a structure and any adjacent sloping fill and the backfill between a structure and the sloping sides of the surrounding excavation is constructed, the slope of the fill and of the sides of the excavation shall be benched or serrated in order to prevent wedge action between the structure and the fill or the sides of the excavation during backfilling and compaction.

The distance between the exposed face of the structure and the toe of the fill or excavation side shall be sufficient to allow proper compaction.

PSD 5.2.3.4 Foundation fill

If, during the course of excavation, it is found that the material at the indicated founding depth does not have the required bearing capacity as specified on the Drawings, the excavations shall be extended at the discretion of the Engineer until satisfactory founding material is encountered. The Engineer reserves to himself the right to order the Contractor to make up the difference in levels with foundation fill.

Where the foundation fill consists of rock or crushed stone, it shall be constructed as directed by the Engineer.

Foundation fill consisting of granular material shall be constructed in layers not exceeding 150 mm in thickness after compaction. Each layer shall be moistened or dried to optimum moisture content for the material and be compacted to a density of not less than 95 % of modified AASHTO density.

Mass concrete fill to be used shall be of the class or mix specified or directed by the Engineer.

PSD 5.2.4.2 Topsoiling

Delete this Sub-Clause and refer to Section PSVA.

PSD 5.2.4.3 Grass or other vegetation

Delete this Sub-Clause and refer to Section PSVA.

PSD 5.2.6 Dewatering of foundation excavations

Over and above his general obligations in regard to dealing with water as specified in SANS 1200 A, the Contractor shall be responsible for preventing the ingress of water into the foundation excavations. The preventive measures shall include the construction of proper drainage channels, diversion channels, berms, sumps, and the supply, operation and maintenance of the necessary bailing and pumping equipment.

The dewatering measures, with the exception of pumping, shall be maintained until the backfilling has been completed, after which all settled silt, mud, etc. shall be removed from the exposed surfaces where necessary. Between the various construction stages, pumping may be interrupted as may be decided by the Engineer. The draining or pumping of water from foundation excavations shall be so done that no concrete materials will be carried away.

PSD 5.2.7 Payment

If a lump sum has been set out in the Schedule of Quantities for the dewatering of foundations. The method of payment for work authorized by the Engineer shall be in accordance with the provisions of the relevant pay item of clause 8 of this section. Work not authorized by the Engineer shall not be measured for payment.

If no lump sum or provisional sum has been set out in the Schedule of Quantities, the tendered rates for foundation excavations and backfilling shall include full compensation for the dewatering of foundations.

PSD 7 TESTING

Add the following:

PSD 7.4 The requirements of Clause 7.2 of SANS 1200 DM and SANS 1200 M shall also apply to this Section.

PSD 8 MEASUREMENT AND PAYMENT**PSD 8.3.2 Bulk Excavation**

(a) Replace 0,5 km with 1 km.

(b) Extra-over for

Delete pay items (3) and (4).

PSD 8.3.3 Restricted Excavation

(a) Add the following to this pay item

(i) In the case of structures, excavation will be scheduled to different depths as follows:

(a) 0 m up to 2 m unit: cubic metre (m³)

(b) Exceeding 2 m up to 4 m unit: cubic metre (m³)

(c) Etc. in increments of 2 m depths unit: cubic metre (m³)

(ii) Extra over item (i) above for additional excavation required by the Engineer after the excavation has been completed unit: cubic metre (m³)

The limits for the successive depth ranges shall be measured down from the average surface to the agreed founding level.

The unit of measurement shall be the cubic metre of material measured in the original position before excavation. The quantity of excavation for each depth range shall be calculated from the nett outlines of the excavation limits shown on the Drawings and the depth of excavation completed within each range.

Irrespective of the total depth of the excavation, the quantity of material within each depth range shall be measured and paid for separately.

Where no excavation limits are shown on the Drawings and formwork has to be provided to the sides of concrete members, an additional quantity of excavation shall be measured to 0.5 m outside the concrete perimeter in order to provide a working space.

Where foundation fill is constructed in an excavation, the quantity of excavated material measured for payment shall be the material excavated between the average ground surface, and the founding level, from the prism with vertical sides or as specified or directed by the Engineer.

In no case shall any of the following volumes of excavation be included in the measurement for payment:

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- (i) The volume of excavation in excess of the abovementioned limits.
- (ii) The volume included within the excavated road prism, contiguous channels, ditches, etc. for which payment is provided elsewhere in the Specifications.
- (iii) The volume of water or other liquid (except the volume of mud, muck or similar semi-solid matter, which has not resulted from the construction operations and which cannot be pumped or drained away).

The tendered rate shall cover all the costs as stated in SANS 1200D 8.3.3 including any additional excavation the Contractor may require for additional work space outside the authorized limits.

If after a foundation excavation has been completed, cleaned and trimmed ready for blinding, the Engineer orders further excavations on account of changed dimensions and/or founding conditions, an extra-over payment (item PSD 8.3.3) for the additional excavation shall be payable in full compensation for any additional costs to the Contractor over and above the normal excavation costs.

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Delete this Sub-Clause and refer to Sub-Clause PSD 5.2.2.6.

Delete this Clause and refer to Section PSVA.

ADD THE FOLLOWING PAY ITEMS:

Dewatering of excavations	lump sum
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Dewatering will be paid for as a lump sum for each structure or series of structures scheduled separately in the Schedule of Quantities. The lump sum shall be paid on a pro rata basis as the work progresses.

The tendered lump sum shall include full compensation for all work and operations required for keeping the excavations dewatered and dry and for the removal of silt and mud from the exposed concrete surfaces, all as specified in Sub-Clause PSD 5.2.6 of this section.

Clause in SABS VARIATION
1200DB

PS DB 2.3 Definitions:

Add the following: The bedding cradle shall be all the bedding below the selected fill blanket as shown on the Drawings prepared by the Engineer.

PS DB 5 CONSTRUCTION:

.PS DB 5.1.2 Water in Trenches:

Water in pipe trenches may cause movement of the pipes due to flotation and backfilling must therefore be carried out as soon as possible. Should movement of pipes occur the Contractor shall, unless otherwise directed by the Engineer, remove the pipes from the trench and relay the same, in accordance with the Specification, all at his own expense.

PS DB 5.1.3 Accommodation of Traffic and Access to Properties:

The construction procedure to be followed by the Contractor at road and rail crossings shall be subject to the prior approval of the Engineer.

PSDB 5.1.4 Dealing with Existing Services

The drawings show the position of existing services, where applicable, based on the best information available. Although these are presented in good faith, their accuracy cannot be guaranteed. The Contractor shall verify the position of all services including cables, overhead lines, watermain, sewers, stormwater lines and other obstacles or existing works that may occur on the site of the Works.

Before excavation commences, the Contractor shall determine the position and expose all existing services, which may be encountered during construction, by means of hand excavations.

PSDB 5.2 Minimum Base Width Specified

Only in the case of pipes smaller than 40 mm diameter, and laid at a depth not exceeding 1.5 m, will the total base width be taken as 450 mm. For all other pipes the side allowance will comply with the requirements of SANS 1200 DB clause 8.2.3.

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PSDB 5.5 Trench Bottom

Unsuitable material shall only be excavated once the Engineer has given a written instruction to this effect. Backfilling material for over excavation shall comply with the requirements of SANS 1200 LB and shall be compacted to 90% modified AASHTO.

PSDB 5.6.1 Backfilling

Pipe joints shall be left open for 300 mm to either side until the pipeline has successfully been tested and approved by the Engineer.

PSDB 5.6.3 Disposal of surplus Excavation Material

Disposal of surplus material shall take place at agreed sites within the freehaul distance from the source of such excavation.

PS DB 6 TOLERANCES:

PS DB 6.2 Moisture content and densities:

Accuracy Degree III shall apply, except that the requirements of Clause 6.1 of SABS 1200LB shall apply for the bedding i.e. the material below the top of the blanket cover.

PS DB 8 MEASUREMENT AND PAYMENT:

PS DB 8.2 Computation of quantities:

PS DB 8.2.5 Please add the following clause:

Payment widths and depths are shown on the Drawings. The minimum width and highest permissible invert level of the trench shall be used for measurements.

PS DB 8.3 Scheduled items

PS DB 8.3.2(a) Excavation:

Excavate in all materials for trenches, backfill, compact and dispose of surplus material

The rate for excavation shall also cover the cost of shoring when necessary in terms of Clause 5.1.1.2 of SABS 1200D.

PS DE SMALL EARTH DAMS

Clause in SABS 1200DE	VARIATION
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PSDE 5.2.2.2 Preparation of exposed surfaces

Add the following Sub-Clause:

All excavations shall be inspected and approved by the Engineer before any construction (including earth embankment, casting of foundations for brick walls, placing of blinding and laying of pipework under structures) is commenced.

PSDE 5.2.3.2 Embankment

Add the following sub-clause:

If the moisture content of the selected impervious material is too high, it shall be mixed with dry material in order to achieve the optimum moisture content.

If the top layer of the compacted material becomes dry and cracked, it shall be ripped, moistened and compacted again before placing of the next layer of material.

PSDE 5.2.3.2 Topsoiling

Delete this Sub-Clause and refer to Section PSVA.

PSDE 5.2.4.4 Grass or other vegetation

Delete this Sub-Clause and refer to Section PSVA.

PSDE 5.2.5.2 Freehaul

Replace 0.5 km with 1.0 km.

PSDE 8.3.11 Dewatering of foundation excavations for

concrete structures

Unit: lump sum

Dewatering will be paid for as lump sum for each structure or series of structures scheduled separately in the Schedule of Quantities. The lump sum shall be paid on a pro-rata basis as the work progresses.

The tendered lump sum shall include full compensation for all work and operations required for keeping the excavations dewatered and dry and for the removal of silt and mud from the exposed concrete surfaces, all as specified in Sub-Clause PSDB 5.2.6.

PS G CONCRETE (STRUCTURAL)

Clause in SABS 1200G	VARIATION
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PSG 3.2 CEMENT

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PSG 3.2.1 **Portland blast furnace cement and rapid hardening cement shall not be used on the Works.**

PSG 3.2.3 **Storage of Cement**

Replace this Sub-Clause with the following Sub-Clause:

Cement which is stored on the Site shall be kept under a cover that provides adequate protection against moisture and other factors that may aggravate deterioration.

Where the cement is supplied in bags, the bags shall be closely and neatly stacked to a height not exceeding 12 bags, and they shall be so arranged that they can be used in the order in which they were delivered to the Site. Different brands and/or types of the same brand shall be stored separately.

The storage of cement in bulk in silos or similar containers shall be permitted, provided that the cement drawn for use is measured by mass and not by volume.

Cement shall not be kept in storage for longer than 6 weeks from the date of manufacture without the Engineer's permission.

The Engineer may order the removal of cement, which is older than 6 weeks, from the Site or the alteration of the design mix if he does allow its use. Alternatively, he may allow the cement to be used in concrete of less critical importance, as in blinding layers.

PSG 3.5 **ADMIXTURES**

PSG 3.5.1 **Approval of Admixtures Required**

Add the following paragraph to this Sub-Clause:

(e) Admixtures shall comply with the requirements of ASTM C-154 or AASHTO M-154 and shall be of an approved brand or type.

PSG 3.5.2 **Air-Entraining Agents**

Add the following paragraph to this Sub-Clause:

(e) Air-entraining agents shall comply with the requirements of ASTM C-260 or AASHTO M-194.

PSG 4.5.2 **Finish**

Add the following to this Sub-Clause:

All external corners shall be chamfered by the fixing of fillet strips into the corners of the formwork to form 25 mm x 25 mm chamfers, all at no extra payment.

PSG 4.5.3 **Ties**

Add the following to this Sub-Clause:

Only patented ties shall be used on water-retaining structures. These ties shall be approved by the Engineer.

PSG 5.1.3 **Cover**

Add the following to this Sub-Clause:

Unless otherwise shown on the drawings, minimum cover to reinforcement shall be as for "severe" conditions.

PSG 5.2.1 Classification of Finishes

Add the following Sub-Clause 5.2.1 (C)

Special

Imperfections such as small fins, bulges, irregularities, surface honeycombing, and slight surface discolorations shall be made good and repaired by approved methods including rubbing down or grinding to the complete satisfaction of the Engineer. The finish of the concrete shall be accurate to Degree of Accuracy I as defined in terms of Clause 6 (see also 5.5.10.3).

PSG 5.2.2 Preparation of Formwork

Add the following to this Sub-Clause:

The joints between continuous formwork elements shall be closely butted and, where necessary, if undue leakage is expected, the joints shall be caulked, taped or packed with a sealing gasket, all at no extra payment. Paper, cloth or similar materials shall not be used for this purpose.

PSG 5.5.1.2 Consistency

Add the following under Sub-Clause 5.5.1.2(a):

The slump for concrete to be used in water retaining structures shall not be less than 30 mm and not more than 60 mm.

PSG 5.5.1.3 Workability

Add the following to this Sub-Clause:

The concrete mix to be used in water retaining structures shall have a water/cement ratio not exceeding 0.5.

PSG 5.5.1.5 Durability

Add the following to this Sub-Clause:

All water retaining structures shall be deemed to be exposed to severe conditions. The water/cement ratio shall be determined by the strength of concrete specified but shall not exceed 0.5.

PSG 5.5.1.7 Strength concrete

Add the following to this Sub-Clause:

Unless specified differently the grade of concrete to be used shall be as follows:

- (i) Grade 30/20: All reinforced concrete structures;
- (ii) Grade 20/20: All paving slabs and floor slabs;
- (iii) Grade 15/20: Unreinforced foundations and Pipe encasement;
- (iv) Grade 10/40: Mass concrete and concrete filling
- (v) Grade 15/10: Screeds and benching

PSG 5.5.11 Watertight Concrete

Add the following to this Sub-Clause:

All structures shall be deemed to be water-retaining unless otherwise specified.

PSG 5.5.13 Grouting

Add the following to this Sub-Clause:

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PSG 5.5.13.1 Materials

- (a) **Water:** Water for grout shall comply with the requirements given in Sub-Clause 3.3 of SANS 1200 G.
- (b) **Aggregates:** Notwithstanding the requirements of Sub-Clause 3.4.1 of SANS 1200 G, the grading of fine aggregate (sand) and coarse aggregate (stone or pea gravel) shall conform to the gradings given in Tables 1 and 2, respectively, below.
- (c) **Cement:** Cement shall be ordinary portland cement complying with SANS 471.
- (d) **Admixtures:** Admixtures shall comply with the requirements of Sub-Clause 3.5 of SANS 1200 G and shall have a proven record of satisfactory performance under conditions encountered in the Republic of South Africa.
- (e) **Proprietary grouting materials:** Unless otherwise approved by the Engineer, proprietary grouting materials shall be obtained ready mixed in sealed pockets as supplied by the manufacturers.

TABLE 1 - SAND			TABLE 2 - STONE OR PEA GRAVEL		
1	2		1	2	
Test sieve nominal aperture size, mm	% Passing (by mass)		Test sieve nominal aperture size, mm	% Passing (by mass)	
9,75	100		9,5	100	
4,75	95 - 100		4,74	95 - 100	
1,18	45 - 65		2,36	0 - 5	
0,3 (300 μ m)	5 - 15				
0,15(150 μ m)	0 - 5				

PSG 5.5.13.2 Preparation and procedures

- (a) Before a machine or structural bedplate is placed on the concrete the following steps shall be carried out:
 1. All defective concrete, laitance, dirt, oil, grease, and loose material shall be removed from the concrete foundation by bush-hammering, chipping, or other means until sound clean concrete is obtained. The surface of the foundation shall be scabbled, but shall not be so rough as to interfere with proper placing of the grout. All foundation bolt sleeves shall be cut out, or cut off flush if the sleeves cannot be removed. The top of the foundation shall be re-shaped if necessary.
 2. The underside of each steel base, particularly in the bearing areas, shall be cleaned and any burrs and ragged edges removed before the base is placed in its final location.
 3. All holding-down bolt sleeves shall be thoroughly cleaned of any materials that may prevent the grout from flowing freely to the bottom of the bolt sockets.
- (b) The base shall be properly aligned and levelled and shall be maintained in that position during grouting.
- (c) After the machine or structural bedplate has been placed the following precautions shall be observed:
 1. Shimming shall be kept to a minimum. Steel plates shall be used for packing and shall be ground to the required thickness, where necessary.
 2. Before grouting is started all loose dirt, oil, grease, and other foreign matter on the surface of the foundation, the undersides of bedplates, and in the bolt holes shall be removed by means of compressed air or other approved means. The surface of the foundation slab shall be thoroughly saturated with clean water, and all free water shall be removed from the surface and the bolt holes just before the grout is placed.

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3. Grouting shall not be carried out until the alignment of all units to be grouted has been checked and approved by the Engineer.
4. Special care shall be taken with grouting in hot or cold weather to ensure proper setting and gain of strength and, in the case of proprietary grouting materials, by having ice or hot water available, as the case may be, in accordance with the instructions of the manufacturer. Enclosures shall be provided for the grout such that, until it has set, its temperature will be in the range 15-27°C.

Shields to protect the grout from the sun and from hot winds shall be provided by the Contractor when so ordered.

PSG 5.5.13.3 Formwork

Formwork for grouting shall comply with the applicable requirements of Sub-Clause 5.2 of SANS 1200 G. Forms shall be caulked where necessary. Adequate clearance between forms and bedplates shall be provided to enable the grout to be worked into place.

PSG 5.5.13.4 Mixing (all free-flowing grouts except epoxy grouts).

The grout shall be mixed to a homogeneous uniform mixture and delivered ready for placing at a temperature between 15°C and 25°C.

The materials and water shall be mixed in a mortar mixer for at least 3 min. or, in the case of small jobs only, shall be thoroughly mixed by hand, the entire mass being turned over enough times to ensure even distribution of its components.

The mixing shall be done as close as possible to the place(s) where the grout is placed. No more grout shall be mixed at any one time than can be placed in a period of 20 min. After the grout has been mixed it shall not be retempered by the addition of water.

PSG 5.5.13.5 Grouting (all free-flowing grouts except epoxy grouts).

The grout shall be placed quickly and continuously to avoid the undesirable effects of over-working. (These effects are segregation, bleeding, and breaking-down of initial set). The method of placement shall be subject to approval. The means of placing the grout shall be such that the grout will completely fill the space to be grouted, will be thoroughly compacted, will be free of air pockets, and will have evenly distributed contact over an area in excess of 80% or, in the case of expanding grout, 95% of the bearing area of the item to be supported.

Wherever practicable, grout shall be placed from one side only and where this is not practicable, care shall be taken to ensure that any entrapped air is released.

After the grout has taken its initial set,

- (a) the forms shall be removed;
- (b) excess grout shall be so cut away as to leave a smooth and neatly finished job;
- (c) except where the grout is intended to provide resistance to side thrust, all edges shall be trimmed at 45° to the vertical, from the bottom edge of the bedplate; and
- (d) all excess grout on or about the bedplates shall be removed.

Damage to paintwork, if any, shall be repaired within 24 hours. Packing plates, shims, and other levelling devices shall remain in position.

PSG 5.5.13.6 Dry-packed grout (standard dry sand and cement grout).

Dry-packed grout shall have a minimum compressive strength at 28 days of 20 MPa. The quantity of water added after placing shall be kept to a minimum consistent with placing conditions, and the cement, sand and, where applicable, pea gravel proportions by mass shall be as follows:

- (a) Where the clearance between bedplate and foundation is 25 mm or less : 1 part of portland

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cement and 2 parts of sand;

- (b) where the clearance exceeds 25 mm: 1 part of portland cement, 1 part of sand, and 1 part of pea gravel.

Dry-packed grout shall be rammed by means of tamping rods against formwork placed along three sides of the bedplate.

PSG 5.5.13.7 Non-shrink grout with metallic aggregate.

The manufacturer's instructions shall be observed when non-shrink grout with metallic aggregate is used.

Where the clearance between the bedplate and the foundation is less than 50 mm a sand-based mix shall be used. Where the clearance exceeds 50 mm the Engineer may order a mix with a base of sand plus pea gravel to be used.

PSG 5.5.13.8 Expanding grout with powdered aluminium additive.

The manufacturer's instructions shall be observed when an expanding grout with powdered aluminium additive is used. Where the clearance between the bedplate and the foundation is less than 25 mm, a sand-based mix shall be used.

Where the clearance exceeds 25 mm the Engineer may order mix with a base of sand plus pea gravel to be used.

Each batch shall be mixed for at least 6 min. after the powdered aluminium has been added. Where a ready-mixed grout is used, the powdered aluminium shall be added at the placing site and the batch mixed as specified in PSG 9.4. Grout shall be placed within 45 min. after the addition of the powdered aluminium.

The Contractor shall not use powdered aluminium additive when the ambient temperature is below 5°C.

PSG 5.5.13.9 Epoxy grout (epoxy mortar type only).

The manufacturer's instructions shall be observed when an epoxy grout is used.

PSG 5.5.13.10 Testing (Clause 7).

The Contractor shall, where so ordered, carry out a site test for each grouting procedure and each grouting gang to be used. The tests shall be carried out on a dummy bedplate similar in configuration to that which is to be grouted, but not exceeding 1 m in area unless otherwise ordered.

When the dummy bedplate is dismantled, the underside shall show a minimum grout contact area of 80% with reasonably even distribution of the grout over the surface grouted except that, in the case of expanding grout, the minimum grout contact area shall be 95%. The test shall show evidence of good workmanship and materials and the results shall be to the satisfaction of the Engineer.

The Contractor shall, when so ordered, make standard test cubes from various grout mixtures and subject them to compression tests to determine whether the specified strength has been achieved. Test procedures shall comply with the relevant requirements of Sub-Clause 7.2.1 to 7.2.3(f) SANS 1200 G.

Add the following Sub-Clauses:

PSG 5.5.16 NO-FINES CONCRETE

PSG 5.5.16.1 Materials

Cement, aggregate and water shall comply with the requirements of Clause 3 of this section.

Each size of aggregate shall be a single-sized aggregate graded in accordance with SANS 1083.

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PSG 5.5.16.2 Classes of no-fines concrete

No fines concrete shall be classified by the prefix NF and the size of the aggregate to be used. Class NF 20 means a no-fines concrete with a 19 mm nominal size aggregate.

The volume of aggregate per 50 kg of cement for each class of no-fines concrete shall be as follows:

Class	Aggregate per 50 kg cement
NF 40	0,33 m ³
NF 20	0,30 m ³
NF 10	0,27 m ³

PSG 5.5.16.3 Batching and mixing

Cement shall be measured by mass or full bags of 50 kg each and aggregate shall be measured by volume in approved measuring boxes or barrows.

The quantity of water added shall be just sufficient to form a smooth grout that will adhere to and completely coat each and every particle of aggregate and to be just wet enough to ensure that, at points of contact of the aggregate, the grout will run together to form a small fillet to bond the aggregate together. The mix shall contain no more than 20 litres of water per 50 kg of cement.

Mixing shall be carried out in an approved batch-type mechanical mixer, but small quantities may be hand mixed.

PSG 5.5.16.4 Placing

No-fines concrete shall be placed in accordance with the procedure agreed on by the Engineer. It shall be placed in its final position within 30 minutes of mixing.

The no-fines concrete shall be worked sufficiently to ensure that it completely fills the space to be concreted and that adjacent aggregate particles are in contact with one another. Excessive tamping or ramming shall be avoided and under no circumstances may the no-fines concrete be vibrated.

PSG 5.5.16.5 Protection

All no-fines concrete shall be protected from the elements and loss of moisture. Protection against loss of moisture shall be accomplished in one or more of the following ways:

- (a) Retaining formwork in place.
- (b) Covering exposed surfaces with sacking or other approved material kept continuously wet.
- (c) Covering exposed surfaces with plastic sheeting.

No-fines concrete placed during cold weather shall be adequately protected against frost for at least 3 days.

PSG 5.5.17 Joints in structures

PSG 5.5.17.1 Materials

- (a) General

All materials used in the forming, construction and sealing of permanent joints, as well as all proprietary or custom-built expansion-joint assemblies shall be subject to the approval of the Engineer.

When required by the Engineer, the Contractor shall submit test certificates from an approved independent testing authority to show that the respective materials comply with the specified requirements, or a certificate from the patent holder or designer to certify that the manufactured item complies in all respects with relevant product specifications.

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(b) Joint filler

Joint filler shall comply with the requirements of the following specifications:

- (i) American Association of State Highway Officials (A.A.S.H.O.) Standard Specification M153-54 Type I and III.
- (ii) National Transport Commission "Standard Specification for Roads and Bridge Works".
- (iii) Department of Public Works PW471 "Specification of Materials and Methods to be used" Section 3.13 Expansion Joints.

Joint fillers shall consist of closed cell expanded polyethylene with a density of not less than 100 kg/m³.

(c) Sealants

Joint sealers shall consist of a two component polyurethane sealing compound complying with the requirements of SANS 1077.

Other sealants may be used if approved by the Engineer after submission of full specifications and information by the Contractor at tender stage.

(d) Waterstops

Waterstops shall be of natural rubber, or plasticized, virgin, non-biodegradable PVC, and of the type specified or shown on the Drawings.

- (i) Natural rubber waterstops shall comply with the requirements of CKS 388.
- (ii) Flexible polyvinyl chloride (PVC) rubber waterstops shall comply with the requirements of CKS 389.

(e) Accessory materials

(i) Primers

When a primer is to be used in conjunction with the sealant, it shall be of the prescribed proprietary material.

(ii) Adhesives

Adhesives used in conjunction with preformed seals shall be of a proven and approved type which is compatible with the material of the seal.

(iii) Bond breakers

Polyethylene tape, coated papers, metal foils or similar material may be used where bond breakers are required.

(iv) Back-up material

Back-up material shall consist of a compressible material of correct width and shape in order to ensure that it will be in approximately 50% compression after installation and that the sealant can be formed to the specified depth.

Back-up materials shall be compatible with the sealant used. Material containing bitumen or volatiles shall not be used with thermosetting chemically curing sealants.

(f) Storage

All materials used in the forming, construction and sealing of permanent joints and all proprietary or custom built expansion-joint assemblies shall be stored off the ground under cover that provides adequate protection against sunlight, physical or chemical damage or other factors that may cause deterioration.

PSG 5.5.17.2 Filled Joints

Filled joints shall be accurately formed to the dimensions shown and with the filler material specified on the Drawings. The filler shall be secured in position so that it will not be displaced during or after concreting if the filler is to remain permanently in the joint.

Wherever polystyrene or a similar material which is susceptible to damage is used to form joints, it shall be lined with a hard surface on the side to be concreted. The hard surface shall be sufficiently resilient to ensure that the joint and surfaces can be formed free from defects.

PSG 5.5.17.3 Sealing of Joints

(a) General

Sealed joints shall be made watertight over the full length of the joints, unless otherwise permitted by the Engineer, and the joint dimensions shall be as shown on the Drawings.

(b) Preparation of joints

The reaming of joints by sawing or other means shall be undertaken when edge spalling or ravelling can be avoided and shall be subject to the Engineer's approval. After removal of the temporary filler material or the breaking-out of the excess concrete, the inside faces of the joint shall be wire-brushed or grit-blasted to remove all laitance and contaminants. Thereafter the joint shall be cleaned and blown out with compressed air to remove all traces of dust. Solvents shall not be used for removing contaminants from concrete and porous surfaces.

Care shall be taken to ensure that primers or adhesives are applied only to surfaces that are absolutely dry. The primer or adhesive shall be applied strictly in accordance with the manufacturer's instructions. Unless otherwise specified, the primer shall be applied within the temperature range of 10°C to 40°C and the sealant shall be applied after the curing period of the primer and within the period during which the primer remains active.

(c) Sealants

Sealants shall be applied strictly in accordance with the manufacturer's instructions by a person skilled in the use of the particular type of sealant. The trapping of air and the formation of voids in the sealant shall be avoided. The sealant shall be finished to a neat appearance flush with the edges of the concrete or to the specified depth.

Thermoplastic hot-poured sealants shall not be poured into the joints when the temperature of the joint is below 10°C. The safe heating temperature shall not exceed the specified pouring temperature by more than 10°C.

Two-part thermosetting chemically curing sealants shall not be applied after expiry of the specified potlife period, which shall commence once the base and activator of the sealant have been combined.

(d) Preformed compression seals

The seal shall be inserted and secured with a lubricant adhesive which covers both sides of the seal over the full area in contact with the inside faces of the joint. The lubricant adhesive shall be applied immediately before the seal is inserted.

The seal shall be installed in a compressed state, with the appropriate equipment, so that the seal will remain in compression even under the most adverse conditions. The final position of the seal shall be as shown on the Drawings or as directed by the Engineer.

Joints in seals shall be bonded or fused and shall be only at positions agreed on by the Engineer.

(e) Waterstops

(i) General requirements

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The waterstops shall be supplied in unjointed standard production lengths. Site jointing shall be limited to the absolute minimum. Where lengths in excess of the standard production lengths are required, such longer lengths shall preferably be factory jointed.

At intersections, transitions and abrupt changes of direction, factory-moulded watertight junction pieces shall be used so that any site jointing can be restricted to simple joints. When a waterstop with a centre bulb is intersected, the centre bulb shall be continuous throughout the intersection irrespective of the make-up of the intersection.

(ii) Rubber waterstops

All joints shall be vulcanized and shall have a tensile strength of at least eighty (80) per cent of that of the unjointed material for water-retaining structures, and fifty (50) per cent for other structures.

Site joints shall be vulcanized joints made in accordance with the requirements of these Specifications and the manufacturer's instructions, and with equipment prescribed or supplied by the manufacturer and approved by the Engineer.

The vulcanizing process shall be a hot process with strict control on the pressure, the temperature and the time. The vulcanizing temperature shall be between 150°C and 160°C. The rubber shall not be heated above 160°C. The vulcanizing time for the specific type of rubber of the waterstops involved shall be determined with a curometer for the abovementioned vulcanizing temperatures before a vulcanized joint is made. The recommended pressure between the two sections which must be vulcanized is 3,4 MPa and the minimum allowable pressure is 2,4 MPa.

The contact faces of the sections to be jointed shall be accurately and evenly cut at the angle shown on the Drawings or prescribed by the Engineer to obtain a precise fit and complete contact.

Care shall be taken to keep centre bulbs unobstructed at the joints so that the lateral flexibility of the waterstops will not be affected by the presence of clotted rubber inside the bulbs.

The rubber of the waterstop shall not have any porosity or voids between the contact faces of the sections and/or at the finished vulcanized joint, especially at the centre bulb.

The vulcanizing equipment shall comply with the following minimum requirements:

The heating elements shall be equipped with an automatic temperature-control device to keep the elements at the required temperature.

It shall be equipped with an automatic temperature-control device to keep the heating elements at the required temperature, with a device to measure the temperature at the vulcanizing plane, a device to measure the temperature applied to the external faces of the rubber, and with a pressure gauge to regulate the applied pressure within the specified limits in relation to the liquidity of the rubber.

During the vulcanizing process the pressure shall be spread evenly over the entire contact area and the pressure plates shall be sufficiently rigid that they will not bend under the applied pressure. The cut-out forms of the pressure plates shall fit accurately over the waterstops so that all the faces of the waterstops will be in contact with the pressure plates.

The planes of contact of the two sections of the waterstops to be joined together shall be prevented from sliding from each other when pressure is applied to the plates.

A shield shall be available to shield the apparatus against wind, rain, etc. when joints are made in the open to ensure proper temperature control.

The apparatus as a whole shall be safe in all respects and shall comply with all the appropriate statutory requirements.

(iii) Plasticized, flexible PVC waterstops

The waterstops shall be manufactured from high-quality virgin material and shall not contain any scrap or reclaimed material. The waterstops shall be light coloured so as to reduce heat absorption when exposed to sunlight.

The waterstops shall be precision moulded or extruded to the required cross-sectional profile, they shall be free from porosity or other imperfections, and shall be provided with eyelets so that they can be securely fixed to prevent displacement during concreting.

All joints shall be butt-jointed hot-welded joints. Where joints cannot be factory made, Site joints shall be made in accordance with the manufacturer's instructions with equipment prescribed or supplied by the manufacturer and approved by the Engineer.

PSG 5.5.17.4 Installation of Expansion joints

No expansion joint or part thereof shall be installed before the final surfacing levels have been established as based on a complete level survey of the contiguous surfaces. The survey shall be made before the kerbs, channels or bituminous surfacing is constructed.

PSG 5.5.18 Building in of Pipes

The Contractor under this Contract shall be responsible for building-in or caulking and making watertight around all pipes and fittings which pass through walls or under floors of the structures, irrespective of whether the Contractor himself supplies and installs the pipes and fittings, or the Employer purchases the pipes and fittings and the Contractor under this Contract takes delivery and installs them, or some other contractor (e.g. a plant supplier) supplies and installs the pipes and fittings in recesses or through holes left in the various structures for the reception of such pipes and fittings. In the latter case the Contractor under this Contract will be paid for forming the openings for and caulking of these pipes or fittings under the item provided for this purpose in the Schedule of Quantities.

Where pipes or specials are required to pass through or be set into concrete work holes shall be left in the concrete.

Before commencing the positioning in holes of any pipes/specials the Contractor shall

- (a) cut the reinforcement to allow the pipe to be installed;
- (b) remove all shuttering and boxing remaining in the holes;
- (c) make any alterations required to the position and shape of the holes;
- (d) thoroughly clean the sides of the holes so as to obtain a satisfactory bond surface for the new concrete; and
- (e) free all surfaces of the pipes/specials of all coatings, and thoroughly scrape and clean the pipes/specials.

After accurately positioning the pipes/specials in their respective holes, the Contractor shall fix the pipes/specials in the holes.

Immediately before grouting is carried out by the placing of mortar and concrete around the pipes, the surface of the existing concrete shall be saturated with water. All surplus water shall be removed and the surface covered with a layer, approximately 12 mm thick, of mortar consisting of 3 parts of concrete sand and 1 part of cement.

The concrete ingredients shall be mixed and placed as dry as possible to obtain a dense, waterproof concrete. Where a watertight seal is required, the concrete shall be carefully worked around the puddle flange, if any, and the pipe barrel or body of the special, and shall be vibrated in layers so as to obviate any falling away from pipe/special surfaces of the concrete already placed. The whole shall, when set, form a dense, homogeneous, and waterproof mass. A spare vibrator with an independent power source shall be kept in readiness to ensure continuity of placing in the event of the breakdown of the duty vibrator.

Smooth formwork that has been suitably strengthened for use with a vibrator shall be provided for facing the concrete around each pipe/special.

Alternatively, pipes may be cast into the wall in which case the pipes shall be installed in the required position with the formwork fixed around them and the concrete worked thoroughly into contact.

PSG 5.5.19 Foundations for Mechanical Equipment

The mechanical contractors shall supply the holding down bolts for all mechanical equipment, together with all dimensions and other details necessary for the construction of the pedestals and holding down bolt pockets, or the fixing of the bolts. The Contractor shall either form pockets for the holding down bolts to be installed at a later stage or he shall position the bolts before the concrete is cast as ordered by the Engineer. The mechanical contractor shall fix, align and level the mechanical equipment after which the Contractor shall grout up the units solidly by filling the voids inside and under the baseplates as ordered with an approved non-shrink grout.

PSG 5.5.20 Testing for watertightness

The structure shall be filled by water being gradually let in until the top water level has been reached. The water level will then be carefully noted and recorded by the Engineer in relation to a fixed bench-mark, and the structure shall be allowed to remain filled for a period of two weeks to permit complete absorption of water by the concrete.

Any loss of water which may have occurred shall then be made up by again filling the structure to the top water level and by allowing the water to remain undisturbed for a period of not less than four days. The structure shall be considered to be watertight if the drop in level in 96 hours (less the drop caused by evaporation) does not represent more than 0,06% of the volume of the structure.

The evaporation shall be measured by the mean drop in level caused by the evaporation of the water in three flat containers floating in the water, being recorded.

The Contractor is free to attend the taking of all measurements by the Engineer.

In the event of an appreciable leakage being evident or visible at any stage of the filling or testing, or in the event of the final degree of watertightness being unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue such filling or testing that shall, at his own expense, take approved steps to rectify the leakage, until a test proves that a sufficient degree of watertightness has been obtained.

Before the expiry of the period of maintenance, the Engineer shall have the right to retest the structure for watertightness, results of such further tests will be made available for the information of the Contractor. In the event of these tests indicating an unsatisfactory degree of watertightness, the Engineer will, before issuing the final certificate, again require the Contractor to rectify the leakage, at his own expense, in such a manner as will cause the least interruption of the water supply to consumers and as will ensure the soundness of the work, to the satisfaction of the Engineer.

Should the failure of the structure to pass the first or any subsequent test for watertightness necessitate the draining of the structure, the Employer reserves the right to itself to utilise the water by discharging it into its water-reticulation network, in which case the Contractor -

- (i) shall not have to pay for the subsequent refilling of the structure;
- (ii) shall, if applicable, reimburse the Employer for any additional costs incurred to make the water fit for consumption; and
- (iii) shall not be entitled to claim for extra time whilst waiting for the water to be discharged into the network.

The costs of retesting the structure for watertightness shall be borne by the Contractor. Notwithstanding the conditions as set out in sub-Clauses 6.1 to 6.2 the following tolerances shall also apply to this Contract.

PSG 5.5.21 Cleansing and Disinfecting

Before being put into use, all structures which will contain potable water shall be thoroughly cleaned out by brushing and hosing with clean water and finally washed with a solution of permanganate of potash mixed in the proportion of 15 grammes to 100 litres of water. On completion of disinfecting, all excess solution shall be drained to waste before testing structure for watertightness.

PSG 6.3 CONCRETE ELEMENTS

Concrete elements shall be constructed and finished to the following tolerances

- .01 surface irregularities 5 mm
- .02 cross section dimensions ± 5 mm
- .03 level ± 5 mm

PSG 6.4 TOP OF WALLS

Surface irregularities 3 mm

PSG 6.5 VENTURI FLUMES AND APPROACH CHANNEL

- .01 surface irregularities 2 mm
- .02 cross section dimensions other than throat width ± 5 mm
- .03 throat width: within 1% or 5 mm of the required width whichever is the smaller
- .04 floor level: $\pm 2,5$ mm

PSG 6.6 FLOOR SURFACES

The flat and inclined floor slabs in the biological reactors and the sloping floor slabs in the cylindrical tanks (clarifiers etc.) shall be constructed and finished to the tolerances as specified under PSG 6.3 above.

In the case of the cylindrical tanks (clarifiers etc.) the scraper mechanisms for the tanks may be used for checking the tolerances but it shall be borne in mind that these mechanisms will only be installed towards the end of the contract. Under no circumstances shall the scraper mechanisms be used for sweeping the concrete to the required grade or thickness. When the mechanisms are used for checking the tolerances it must be done with the approval of the supplier of the mechanism. Grinding may be necessary to obtain the required tolerances of floor slabs in cylindrical tanks and the tenderer's attention is drawn to the various pay items which include for this treatment after installation of mechanical equipment

PSG 8 MEASUREMENT AND PAYMENT

PSG 8.1.1 Formwork

PSG 8.1.1.6 Add the following to this Sub-Clause:

The unit rate shall also cover the cost of ties and patented ties as specified in Clause PSG 4.5.3.

PSG 8.2 SCHEDULED FORMWORK ITEMS

PSG 8.2.6 Box out holes/Form Voids

Replace this pay item with the following pay item:

Box out holes/Form Voids

Items will be scheduled as follows:

(a) Cylindrical of volume:

	<u>Over</u>	and	<u>Up to and including</u>	
(i)	0.0m ³	0.01m ³		Unit : No

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(ii)	0.01m ³ 0.05m ³	Unit : No
(iii)	0.05m ³ 0.15m ³	Unit : No
(iv)	0.15m ³ 0.25m ³	Unit : No
(b)	Cubical of volume:	
	<u>Over</u> and <u>Up to and including</u>	
(i)	0.0m ³ 0.01m ³	Unit : No
(ii)	0.01m ³ 0.05m ³	Unit : No
(iii)	0.05m ³ 0.15m ³	Unit : No
(iv)	0.15m ³ 0.25m ³	Unit : No

Add the following pay item:

PSG 8.2.7 Chamfers larger than 25 mm x 25 mm

- (a) size and member indicated unit: metre (m)
- (b) Ditto for other sizes unit: metre (m)

The unit of measurement shall be the metre length of chamfer formwork provided. Chamfers smaller than 25 mm x 25 mm will not be measured for payment and their cost shall be deemed to be included in the rates tendered for formwork.

PSG 8.5 JOINTS

Delete this pay item and add the following pay item:

PSG 8.5.1 CONSTRUCTION JOINTS

Forming construction joint unit : square metre (m²)
(Width of joint to be stated)

The unit of measurement shall be the square metre net area of one face of the concrete that constitutes the joint.

The tendered rate shall cover the cost of all materials and labour for the construction of the joint, including the cost of formwork, surface roughening and cleaning, testing and making good.

PSG 8.5.2 FILLED JOINTS

Forming filled expansion joint unit : square metre (m²)
(Thickness and width of joint to be stated and material of joint filler to be stated)

The unit of measurement shall be the square metre net area of one face of the concrete that constitutes the joint.

The tendered rate shall cover the cost of all materials and labour for the construction of the joint, including formwork, supply and installation of joint filler as specified, testing and making good.

PSG 8.5.3 SEALED JOINTS

Sealing of joints unit : linear metre (m)
(Size of finished seal to be stated and material of joint sealer to be stated)

The unit of measurement shall be the linear metre net length of the position where the sealant is applied.

The tendered rate shall cover cost of supplying, preparing and application of the joint sealer as specified including testing and making good. Other costs related to the joint will be covered by items PSG 8.5.1 or 2 as the case may be.

PSG 8.5.4 JOINTS WITH WATERSTOP

Separate items will be scheduled for:

- (a) Waterstops in a straight line unit: linear metre (m)
- (b) Waterstops on a curve unit: linear metre (m)
- (c) Extra-over items (a) and (b) above for factory moulded intersection pieces (described)
unit: Number (no)

Full description of waterstop with the relevant dimensions to be stated.

The unit of measurement shall be the linear metre net length of waterstop installed, measured along its central bulb.

The tendered rate shall cover the cost of supplying and installation of the waterstop. Other costs related to the joint will be covered by items PSG 8.5.1; 2 and/or 3 as the case may be. Regarding the intersection pieces, the rate shall also include the joining of the intersection piece on site with straight or curved water stops.

PSG 8.7 GROUTING

Add the following pay items:

- (d) Grouting in of equipment supplied and installed by the Plant Supplier
 - (i) using non-shrink grout (state type) unit: cubic metre (m³)
 - (ii) using dry-packed grout unit: cubic metre (m³)

The unit of measurement shall be the cubic metre of completed grouting.

The tendered rate shall include full compensation for supplying of all materials, mixing, applying and finishing to a steel-float surface finish after installation of the Plant.

Add the following pay items:

PSG 8.9 Sealing of openings in top surface of no-fines concrete with plaster

- (a) Plane horizontal unit: square metre (m²)
- (b) Plane sloping unit: square meter (m²)

The unit of measurement shall be the square metre of sealing of no-fines concrete.

The tendered rate shall include full compensation for the construction of the plaster work, including the supply of all material, mixing, applying, finishing to a wood- float finish.

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PSG 8.10 TESTING STRUCTURES FOR WATERTIGHTNESS

The unit of measurement for testing for watertightness shall be the lump sum.

The tendered rate shall include full compensation for the provision of all labour, plant and materials necessary for testing the structure for watertightness as specified, and for emptying it afterwards, all to the satisfaction of the Engineer.

PSG 8.11 CLEANSING AND DISINFECTING

The unit of measurement for disinfecting shall be the lump sum.

The tendered rate shall include full compensation for all labour, plant and materials necessary for disinfecting as specified to the satisfaction of the Engineer.

PS HA STRUCTURAL STEELWORK (SMALL WORKS)

Clause in	VARIATION
SABS 1200HA	

PSHA 2 INTERPRETATION

PSHA 2.1 Supporting Specifications

(a) SANS 1200 H

PSHA 3 MATERIALS

PSHA 3.1 STRUCTURAL STEEL

Replace the reference to BS 4360 with SANS 1431. The grade of steel shall be 300W.

PSHA 3.3 BOLTS, NUTS AND WASHERS

PSHA 3.3.1 Bolts and Nuts (Other than Friction Grip)

Add the following to this Sub-Clause:

All bolts and nuts shall be of grade 4,6 steel. Washers shall be provided at each nut and shall be of the same material (or coating where applicable) to match the bolt and nut. Single coil square section spring washers shall be fitted to all nuts subject to vibration.

Bolts other than jacking bolts shall project not less than 3 mm and not more than 10 mm from the heads of the nuts after tightening.

Holding down bolts to be built into concrete work as well as bolts to be installed above ground level directly above and under water shall all be of stainless steel grade 304. Bolts for flexible couplings and flanges for underground installation shall be hot-dip galvanized in accordance with the requirements of SANS 763. Bolts to be installed inside buildings shall be hot-dip galvanized in accordance with the requirements of SANS 763 and afterwards painted with the pipework and fittings as specified in the Standardized Corrosion and Painting Specification for Civil Engineering Works.

Suitable plastic sleeves and/or washers shall be used for protection against corrosion by metallic action.

PSHA 3.5 PAINTS AND PROTECTIVE COATINGS

Delete this Sub-Clause and refer to the Standardized Corrosion and Painting Specification for Civil Engineering Works, obtainable from the Engineer.

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PSHA 5.2.10 Handrails

Add the following to this Sub-Clause:

Stanchions for handrailing shall be of approved prefabricated ball type made in one piece without welding at ball joints to accept the hand and kneerails and shall have 150 x 75 x 10 mm baseplates drilled for M 12 bolts at 100 mm centres. Baseplates shall be floor mounted.

Hand and kneerails shall consist of 25 mm nominal inside diameter tubing cut and bent to shape. Stanchions shall be spaced not more than 1,5 metres apart. Unless otherwise shown, all handrailing shall be 900 mm above walkway level.

All tubing, stanchions and baseplates shall be manufactured in grade 304 stainless steel or hot dipped galvanized (heavy coating), as scheduled or shown on the drawings.

All stainless steel components shall have a No. 1 surface finish and surfaces shall be pickled and passivated in accordance with the requirements of the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 5.2.11 Ladders

Ladders shall be of all welded construction. Materials used shall be as stated on the drawings. Stainless steel shall be finished with a No. 1 surface finish. Pickling and passivation shall be carried out in accordance with the requirements of the Standardized Corrosion and Painting Specification for Civil Engineering Works.

Vertical ladders shall comprise stringers at 600 mm centres made of 32 mm nominal bore pipes with 3,56 mm wall thickness and rungs spaced at 300 mm centres made of 16 mm diameter solid round bars.

The stringers shall be drilled on one side only to provide a sliding fit for the ends of the rungs which shall protrude through these holes up to the opposite inside face of the stringer and be welded all around where they enter the holes in the stringers.

Lugs for bolting ladders to walls shall consist of 20 mm nominal bore pipes with 2,87 mm wall thickness. Baseplates for stringers and lugs shall be 150 x 60 x 10 mm drilled for 2 No. M12 stainless steel bolts.

Where safety cages are specified the hoops shall be made of 50 x 6 mm flat bars and the longitudinals of 40 x 6 mm flat bars, all in accordance with the dimensions as shown on the Drawings.

PSHA 5.2.12 Prefabricated open grid flooring

PSHA 5.2.12.1 Add the following to this Sub-Clause:

Open grid flooring shall be of square pattern type of approved manufacture with 40 x 4 mm minimum thickness bearer bars spaced at not more than 40 mm centres and shall be manufactured in grade 304 stainless steel or 3 CR 12 steel (as scheduled or as shown on the drawings). The tendered rate shall include for all cutting into the required panels, banding and for frames detailed below.

Open grid flooring shall be provided with welded frames as scheduled, made of 50 x 50 x 5 mm thick 3 CR 12 steel angle to provide a seating for the open grid flooring. The nett clearance between the side bars of the open steel flooring and the vertical leg of the frame or strip shall be 5 mm per side. The frames shall be complete with 100 x 40 x 3 mm 3 CR 12 steel anchors fixed at 500 mm centres for building the frame into the concrete work.

Pickling and passivation shall be carried out in accordance with the requirements of the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 5.2.12.3 Delete this Sub-Clause.

PSHA 5.2.13 Floorplate floors

Floorplate shall have a thickness of 4,5 mm and shall be of the non-slip type.

The floorplate shall be made up as shown on the Drawing complete with handles, hinges and locating angles

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welded to the underside.

The tendered rate shall include for all cutting into the required panels and for a frame described on the drawing.

Floorplate shall be manufactured in grade 304 stainless steel or 3 CR 12 steel (as scheduled or as shown on the drawings) and shall be pickled and passivated as specified in the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 5.2.14 Protective treatment

Delete this Clause and refer to the Standardized Corrosion and Painting Specification for Civil Engineering Works.

Add the following Sub-Clauses:

PSHA 5.2.15 Ground water pressure relief valves

Ground water pressure relief valves shall be J.K.F. type B or similar approved by the Engineer, 110 mm diameter with 12 mm thick nitrile disc and ring. The body of the valve shall be manufactured from S.G. iron and all bolts and fittings shall be grade 304 stainless steel. The corrosion protection shall be in accordance with the Standardized Corrosion and Painting Specification for Civil Engineering Works.

A 100 mm diameter hot dipped galvanized mild steel pipe shall be used as a spacer ring when building the valve into concrete work, all as shown on the Drawing.

PSHA 5.2.16 Weir plates

Weir plates shall be 4,5 mm thick and shall be manufactured in 3 CR 12 steel. Dimensions and slots for M 12 stainless bolts shall be as shown on the Drawings.

The weir plate shall be fixed to the concrete surface using 8 mm thick neoprene seals.

Pickling and passivation shall be carried out in accordance with the requirements of the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 5.2.17 Straps for pipes

Straps for holding down pipes to concrete surfaces shall be manufactured in the material stated on the drawing and to the dimensions as shown on the drawing. If no dimensions are shown, same shall be 50 mm wide by 3 mm thick. The strap shall be slotted and shall be fixed to the concrete by means of M12 stainless steel self drilling anchor bolts. The material between the strap and pipe shall be 8 mm thick neoprene sealing material 50 mm wide.

Pickling and passivation shall be carried out in accordance with the requirements of the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 5.2.18 Hand screens

Hand screens shall be manufactured in grade 304 stainless steel, in accordance with the details as shown on the drawings.

Pickling and passivation shall be carried out in accordance with the requirements of the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 5.2.19 Penstocks

All parts shall be designed for the duty required, but the minimum factor of safety against structural failure shall not be less than 3, based on the working stress of the material. In the design, due consideration shall be given to the thickness of materials with regard to corrosion and operating conditions. The force required at a handwheel or crank to raise a gate or open a penstock shall be in the order of 100 Newton.

The frames and gates of penstocks shall be made of grade 304 stainless steel with a thickness suitable for

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the duty required but shall not be less than 3,5 mm thick.

All gates shall be well guided with no possibility of jamming. The gates of wall mounted types shall be held uniformly against the side facings of the frames by the action of adjustable wedges and shall provide drop-tight closure under the conditions as shown on the drawings. Penstocks (any seating condition) shall not spill water over the top or sides of the frame other than through the opening provided in the penstock for the water to pass through. All penstocks shall be of the level invert type fitted with renewable seals of a non-biodegradable material on the invert.

Penstocks shall have rising spindles protected by suitable transparent nylon sleeves, the latter providing convenient visual inspection and greasing facilities. Handwheels shall be of cast iron with diameters to suit operating either directly on the head frame or on a grade 304 stainless steel tubular pedestal to suit the installation depth, as shown on the drawings. Where necessitated by the mass of the gate and/or the pressure against the gate, suitable gearing shall be provided.

All penstocks measured in the Schedules of Quantities shall be supplied and installed by the Contractor under this Contract. In the case of penstocks to be fixed against concrete walls, holding down bolts made of 304 stainless steel must be supplied and installed into the concrete work. The Contractor shall also execute the complete grouting of the penstocks and carry out all necessary adjustments to ensure proper and smooth operation of the penstocks.

PSHA 5.2.20 Handstops

All parts shall be designed for the duty required, but the minimum factor of safety against structural failure shall not be less than 3, based on the working stress of the material. In the design, due consideration shall be given to the thickness of materials with regard to corrosion and operating conditions. The force required at the handle(s) to raise a gate or open handstop shall not be more than 200 Newton. Should this not be feasible then the handstop gate is to be cut in more than one part, each with its own handle(s) in order to achieve this limit of 200 Newton per section.

The frames and gates of handstops shall be made of aluminium with a thickness suitable for the duty required but shall not be less than 3,5 mm thick.

All gates shall be well guided in frames purpose made to suit their position and duty and shall provide drop-tight closure under the conditions as shown on the drawings. Handstops shall not spill water over the top or sides of the frame other than through the opening provided in the handstops for the water to pass through. All handstop frames shall be extended to the top of the concrete member concerned. Water tightness of handstops shall conform to the requirement that leakage at full water level will not exceed one litre in 15 seconds.

All handstops shall be supplied and installed by the Contractor under this Contract. The Contractor shall also execute the complete grouting of the handstops and carry out all necessary precautions to ensure proper and smooth operation of the handstops.

PSHA 5.3.6 Repairs to paint and site painting

Delete this Sub-Clause and refer to the Standardized Corrosion and Painting Specification for Civil Engineering Works.

PSHA 8. MEASUREMENT AND PAYMENT

PSHA 8.3.2 Handrails

PSHA 8.3.2(b) Handrail assembly complete

Delete the reference to "details given" and add: as specified in Sub-Clause PSHA 5.2.10 (state material to be used).

The tendered rate shall include handrails comprising hand and kneerails installed complete as specified.
unit: Linear metre (m)

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PSHA 8.3.4 Flooring, complete and installed with frames

Delete the reference to "details given" and add: as specified in Sub-Clause PSHA 5.2.12 (state material to be used).
unit: Square metre (m²)

PSHA 8.3.7 Ground water pressure relief valves

The unit of measurement shall be the number of ground water relief valves installed.

The tendered rate shall include full compensation for manufacture, supplying, installation and corrosion protection as specified, including a 110 mm diameter medium class galvanized mild steel pipe which will be used as a spacer ring when building the valve into concrete work.

PSHA 8.3.8 3CR12 steel weir plates (refer to drawing)

- | | | |
|-----|------------------------|-------------------|
| (a) | (State size) | unit: Number (No) |
| (b) | (Etc. for other sizes) | unit: Number (No) |

The unit of measurement shall be the number of completed weir plates.

The tendered rate shall include full compensation for manufacture of the weirplates supplying and installation, including stainless steel self drilling M12 anchor bolts cutting slots in plates for bolts, supplying and installing 8 mm thick neoprene sealing material between concrete and plate and adjusting after installation to obtain the correct level as shown on the drawing.

PSHA 8.3.9 Straps for pipes (refer to drawing)

The unit of measurement shall be the number of straps installed.

The tendered rate shall include full compensation for the manufacture, supply and installation of straps to the details as shown on the drawing, including M12 stainless steel bolts and 8 mm thick neoprene seals between pipe and strap.

PSHA 8.3.10 3CR12 steel hand raked screens at inlet works (refer to drawing)

The unit of measurement shall be the number of screens installed.

The tendered rate shall include full compensation for the manufacture, delivery and installation of the screen as shown on the drawing.

PSHA 8.3.11 3CR12 steel brackets for holding down baffles (refer to drawing)

The unit of measurement shall be the number of baffles and holding down brackets installed.

The tendered rate shall include full compensation for the manufacture, delivery and installation of the baffles and holding down brackets, including supply and installation of M12 stainless steel self drilling anchor bolts. Complete as shown on the drawing.

PSHA 8.3.12 Cat ladder and safety cage (refer to drawing and Clause PSHA 5.2.11)

The tendered rate shall include full compensation for the manufacture, delivery and installation of the ladder, including supply and installation of M12 stainless steel self drilling anchor bolts. Complete as shown on the drawing.

PSHA 8.3.13 Grade 304L Stainless Steel Penstocks

Refer to drawing and clause PSHA 5.2.19 (state size of clear opening, height to handwheel and whether channel or wall mounted on seat or off seat) unit: Number (No)

The tendered rate shall include full compensation for the manufacture, delivery and installation of the penstock to suit the position described and shown on the drawing.

PSHA 8.3.14 Aluminium Handstops

Refer to drawing and clause PSHA 5.2.20 (state size of clear opening) unit: Number (No)

The tendered rate shall include full compensation for the manufacture, delivery and installation of the handstops to suit the position described and shown on the drawing.

PS L MEDIUM-PRESSURE PIPELINES

Clause in	VARIATION
SABS 1200L	

PS L 2 INTERPRETATIONS:**PS L 2.3 Definitions:**

Add the following:

Pipe work. Assembled pipe, specials and fittings.

PSL 2.4 ABBREVIATIONS

Add the following to this Sub-Clause:

FC - (Fibre reinforced cement)

HPDE - High-density polyethylene

PS L 3 MATERIALS**PS L 3.1 General:**

Pipes, specials and fittings shall at all times be protected against damage by fire and storm-water.

Pipes shall be supported during travelling on shaped and padded cradles while pipe specials shall be adequately supported and separated from each other to prevent any damage.

At the delivery points on Site, pipes, pipe specials and fittings shall be supported on sandbags of sufficient strength, such that the undersides of the pipes and pipe specials are at least 200mm off the ground. The number and positioning of supports under the pipes shall be such as to prevent any undue pipe deflection".

PSL 3.3 CI PIPES, FITTINGS AND SPECIALS

Add the following to this Sub-Clause:

All cast iron pipes and fittings shall comply with the requirements of BS 2035 and unless otherwise specified, shall be of class D quality for straight pipes and of class CD quality for fittings. Materials used shall comply with the requirements of SANS 1034 grade 300 for "Grey Iron Castings".

PSL 3.8.3 Flanges and accessories

Add the following to this Sub-Clause:

The dimensions and drilling of standard flanges shall comply with the requirements of SANS 1123 table 16 for pipes and fittings with a diameter of 150 mm and smaller and in accordance with table 10 for diameters exceeding 150 mm. Flanges shall be machined flat, i.e. without a raised joint face. Puddle flanges shall have the same dimensions as standard flanges but shall be undrilled.

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Faces of flanges which will be in contact with jointing gaskets shall receive a protective coating similar to the corrosion protection specified for the internal surface of the pipes and fittings of such thickness and consistency as will not impair the air/gas/water tightness of the joint.

The jointing gaskets shall comply with the requirements of BS 3063 and shall be cut to the full width of the flange and holed for bolts.

PSL 3.9 CORROSION PROTECTION

PSL 3.9.2.2 Steel pipes of nominal bore over 150 mm

Grit blasting finish to comply with a SA3 finish. Protection as described in Sub-Clause 3.9.2.2(b)(2) shall apply.

PSL 3.9.5 Joints, Bolts, Nuts and Washers

Add the following to this Sub-Clause:

Bolts and nuts for standard flanges shall comply with the requirements of SANS 1123 for a working pressure as specified for the flanges in conjunction with which they are to be used.

The jointing gaskets shall comply with the requirements of BS 3063 and shall be cut to the full width of the flange and holed bolts.

All other bolts and nuts shall comply with the requirements of SANS 136 and shall be of grade 4,6 steel. Washers shall be provided at each nut and shall be of the same material (or coating where applicable) to match the bolt and nut.

Bolts shall project not less than 3 mm and not more than 10 mm from the heads of the nuts after tightening.

Bolts to be installed above ground level directly above and under water shall all be of stainless steel grade 304. Bolts for flexible couplings and flanges for underground installation shall be hot-dip galvanized in accordance with the requirements of SANS 763. All other bolts shall be hot-dip galvanized in accordance with the requirements of SANS 763 and afterwards painted with the pipework and fittings as specified in Clause 3.9.

Suitable plastic sleeves and/or washers shall be used for protection against corrosion by metallic action.

PSL 3.10 VALVES

Delete this Clause and add the following:

- (a) **Gate Valves** shall be double flanged or socketed as scheduled with non-rising spindle and shall be fitted with gun metal seats, bronze spindles and gun metal nuts. The direction of closing, which shall be clockwise when viewed from above, must be clearly indicated on the handwheel of each valve. Gate valves shall be of standard waterworks pattern complying with the requirements of SANS 664 for working pressures as specified for each application.
- (b) **Reflux Valves** shall, except where otherwise specified, be double flanged single door swing type and shall be fitted with gun metal seats and bronze hinge and clack pins. In the case of reflux valves to be mounted horizontally, the design shall be such that the gate rests against the seat in the absence of flow or of differential pressure, without the aid of springs or external counterweights. Reflux valves shall comply with the requirements of SANS 144 for working pressures as specified for each application.
- (c) **Resilient Seal Gate Valves** shall be double flanged with non-rising spindle and shall conform to the requirements of SANS 664 for working pressures as specified for each application. Spindles shall be in stainless steel with bronze nuts. The direction of closing, which shall be clockwise when viewed from above, must be clearly indicated on the handwheel of each valve.
- (d) **General** Before leaving the factory valve bodies shall be treated as follows:

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Internally : manufacturer's standard corrosion protection treatment

Externally : in accordance with sub-Clause 3.9.1

For treatment of mating faces of flanges see Sub-Clause PSL 3.8.3.

PS L 3.11 Manholes and surface boxes:

PS L 3.11.1 Bricks:

Cement bricks with a compressive strength of 14MPa that comply with the requirements of SABS 1215 may also be used.

PS L 3.11.5 Manhole Covers and Frames:

Manhole covers and frames shall be of the types shown on the Drawings prepared by the Engineer. All manhole covers and frames shall have been hot dipped in an acceptable bituminous compound before despatch from the manufacturer's works.

The bituminous compound shall comply with the recommendations contained in SABS 568.

PS L3.11.6 Surface Boxes:

Surface boxes shall be of cast iron and of the types shown on the drawings prepared by the Engineer.

PS L 5 CONSTRUCTION:

PS L 5.1 Laying:

PS L 5.1.1 General:

Replace the second sentence by the following:

"It shall be laid centrally on the specified pipe centreline as shown on the Drawings to comply with the tolerances of Clause 6 of this Specification".

Add new paragraph:

The Contractor's construction procedures and scheduling of activities during the day shall provide in particular for the large coefficient of expansion of oPVC pipes and the possible pulling out at joints with pipe laying during the warmer part of the day. The pipe manufacturer's requirements in this regard shall be strictly adhered to.

PS L 5.1.2 Keeping Pipelines Clean:

The Contractor shall construct and maintain the necessary mounds and furrows to prevent the ingress of storm water into the trench at all times.

PS L 5.1.3 Depths and Cover:

Add the Following:

The depth ranges for trenches are shown in the Schedule of Quantities. Full details of trench depths are shown on the Drawings.

Fire hydrant outlets (drain valves) shall be brought up to within the depths from the top of the hydrant cover as shown on the Drawings.

PS L 5.4 Concrete casing:

The concrete shall be 25MPa/19mm strength concrete. Pipes shall be rigidly fixed to prevent flotation during concreting. Also refer to sub-clause 5.4.5.1 of SABS 1200GA

PS L 5.6 Valve and hydrant chambers:

Details of the chambers are shown on the Drawings prepared by the Engineer.

PS L 5.7 Manholes:

PS L 5.7.1 General:

The applicable drawings shall be the Drawings prepared by the Engineer.

PS L 6 TOLERANCES:

PS L 6.2 Control points:

In the third line replace 100mm by 50mm.

PS L 6.3 Alignment (plan and level):

The deviations in horizontal and vertical alignment shall not exceed 100mm and 50mm respectively.

PS L 7.3 Standard hydraulic pipe test:

PS L 7.3.1 Test Pressure and Time of Test:

The Contractor shall obtain the Engineer's prior approval before using isolating valves as bulkheads. Before pressurising the pipeline, the isolating valves for air valves shall be closed subject to sub-clause PSL 7.3.1.6.

PS L 7.3.1.2 The test pressures for field testing are shown on the Drawings.

PS L 7.3.1.2 The test pressures referred to in this sub-clause are subject to the requirements of PSL 7.3.1.2.

PS L 7.3.1.6 New Sub-clause

Depending on the type of air valve and rating of these valves in relation to the test pressure, the air valves may have to be isolated during testing and after air release is complete at rating pressures. The Contractor shall obtain the necessary directive in this regard from the Engineer prior to testing.

PS L 7.3.1.7 New Sub-clause

A Hydrostatic Test Certificate must be completed for each pipeline tested. A Pro-forma certificate has been included in this document on Page 6.19.

PSL 8. MEASUREMENT AND PAYMENT

PSL 8.2.5 Supply and place pipes, valves and specials

Replace this Pay Item with the following Pay Item:

Supply, testing and installation of pipework, fittings and specials as detailed in the Pipe Schedule of the Schedule of Quantities ... Unit: Lump sum.

The tendered lump sum shall include full compensation for the supply of all material, bolts and nuts, manufacture of the pipes, fittings and specials and shall further include for delivery, installation, jointing, testing, holding in position during concrete encasing, blanking off ends to prevent ingress of foreign matter, cleaning out pipes, fittings and specials before connecting up and the full corrosion protection of pipes, fittings and specials as specified.

Where pipes, valves and specials are laid in trenches the tendered lump sum shall also include for the bedding of the pipes, valves and specials.

PSL 8.2.8 Recover old pipeline

Replace this Pay Item with the following Pay Item:

Recover Old Pipeline ... Unit: m.

The total length of the pipeline ordered to be recovered will be measured by length for each stated depth range. No deduction will be made for valves, specials, and the like.

The rate shall cover the cost of removal of the pipes, valves, and fittings from the trench, the handling and transporting to the Contractor's store on site, the cleaning and listing of the salvaged recovered materials.

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HYDROSTATIC TEST CERTIFICATE

SCHEME:							
PIPELINE:							
PIPE TEST		METHOD		DATE		TEST SECTION:	
CONTRACT		1) SABS 1200L 2) DWA 1110				BEGIN (m): END (m):	
PIPE DIAMETER		LENGTH OF TEST SECTION		TEST PRESSURE		ALLOWABLE LEAKAGE RATES	
						1. SABS 1200L - Clause 7.3.3 Diameter x length x 0,075 x Test Pressure = litre (mm) (km) (MPa)	
PIPE GRADE AND t(mm)		(km)		(MPa)		2. DWS 1110 - Clause 12 1/4000 x Volume water in test section = litre	
TEST PUMP		PRESSURE GUAGE(S)		MEASURING DEVICES:			
TYPE:		TYPE:		METER		RECORDER	
MANUFACTURER:		DIAMETER:		VOLUME:			
		DIVISIONS:		DIVISIONS:			
		CALIBRATION:		CALIBRATION:			
TIME:	30 min	TIME:	60 min	TIME:	12 hours	TIME:	24 hours
Volume	Cumulative	Volume	Cumulative	Volume	Cumulative	Volume	Cumulative
COMMENTS					LEAKAGES		CH (m)
				NAME		SIGNATURE	
CONTRACTOR							
ENGINEER							
INSPECTION AUTHORITY							

PSLB BEDDING (PIPES)

Clause in	VARIATION
SABS 1200LB	

SANS 1200 LB: BEDDING (PIPES)

PSLB 3.3 Bedding

Class of bedding for pipes shall be as indicated on the drawings.

PSLB 3.11 Selected Granular Material

Suitable granular bedding material shall be selected from the trench excavations. Only if suitable material is not available, imported material shall be obtained upon a written instruction from the Engineer.

PSLB 5.4 Concrete Casing to Pipes

Pipes which are to be encased in concrete, shall be encased in grade 10/20 concrete to the dimensions as shown on the drawings or as instructed by the Engineer.

PSLB 5.5 Draining of Trenches

Where ground water is present to such an extent that, in the opinion of the Engineer, it would hamper the placing and consolidation of the fine granular bedding or the placing of the concrete bedding in the bottom of the trench, as the case may be, or would cause buoyancy of the pipes, the Engineer may order the provision of a drain in the bottom of the trench to assist in dewatering during construction and until the trench has been backfilled to such an extent as to prevent buoyancy of the pipes.

At certain points along the trench, depending upon the amount of water to be handled, sumps shall be formed from which the water may be pumped to prevent a build-up of water in the trench to a level above that of the top of the layer of stone forming the underdrain.

The stone in the underdrain shall consist of nominal 40 mm crushed stone complying with the grading as specified for 'Stone for Concrete' in Table 5 of SANS 1083 (as amended 1979), and shall be well compacted to provide a uniform support for the pipe bedding to be placed on top of it.

Before placing the concrete bedding the underdrain shall be covered with building paper to prevent ingress of mortar into the interstices of the underdrain.

PSLB 8.1.5 Disposal of Displaced Material

Disposal of surplus material shall take place at agreed sites within the freehaul distance from the source of such excavation.

PSLB 8.1.6 Freehaul

For this contract the freehaul shall be regarded as all haulage within the boundaries of the site of works as well as a distance of 1 km outside the boundaries.

PSLB 8.1.7 Underdrains for trenches

Underdrains for trenches shall be measured in lineal metres, irrespective of depth and the tendered rate for each type shall also include the following:

- (a) Excavation for underdrain below normal trench depth and removal of surplus material.
- (b) Supply, placing and compaction of stone layer.
- (c) Supply and lay, where applicable, of clay drain pipe inside stone layer.

A separate item has been provided for the concrete bedding.

PSLB 8.2 Refer to PSLB 8.1.6 for freehaul distance.

PSLC CABLE DUCTS

Clause in	VARIATION
SABS 1200LC	

SANS 1200 LC : CABLE DUCTS

PSLC 8.2.2 Excavation

The freehaul distance for the disposal of rock shall be 1.0 km.

PSLD SEWERS

Clause in	VARIATION
SABS 1200LD	

PSLD 3 MATERIALS

PSLD 3.1.1.1 Vitrified Clay Pipes

Vitrified clay pipes shall have a crushing strength of 45 kN per metre of bearing surface.

PSLD 5 CONSTRUCTION

PSLD 5.2 LAYING AND BEDDING

add the following Sub-Clauses:

PSLD 5.2.6 Clay pipes (up to and including 200 mm diameter):

When clay pipes of these diameters are laid between manholes, boxes or structures, laying shall commence at the lower end of the line with a stub end (250 mm long cut from a standard full length pipe) for subsequent building into the manhole, box or structure, followed by a 500 mm long standard short length (obtainable from the Suppliers or cut on Site) and thereafter by full length pipes with the last pipe cut at 750 mm from the inner face of the wall of the upper manhole, box or structure. The remaining gap shall then be filled in with a 500 mm long standard short length and a 250 mm long stub end, the latter for building into the manhole, box or structure.

PSLD 5.2.7 Clay pipes (250 mm and larger in diameter):

Where clay pipes of these diameters are laid between manholes, boxes or structures, laying shall commence at the lower end of the line with a stub end (500 mm long with jointing strip one end, cut from a standard full length pipe) for subsequent building into the manhole, box or structure, followed by a 500 mm long standard short length with jointing strips both ends (obtainable from the Suppliers) and thereafter by full length pipes with the end of the last pipe not less than 750 mm from the inner face of the wall of the upper manhole, box or structure. The remaining gap shall then be filled in with 500 mm long standard short lengths with jointing strips both ends (number to suit) and a stub end with jointing strip one end (cut to suit but not longer than 700 mm nor shorter than 250 mm), the latter for building into the manhole, box or structure. In the case of manholes and boxes of which the positions are not dictated by other requirements, these shall be positioned such that the inner face of the wall of the manhole or box shall be 1000 mm beyond the upper end of the last full length pipe in the pipeline, with the resulting gap filled in with a 500 mm long standard short length and a 500 mm long stub end, as at the lower end of the line.

PSLD 5.2.8 Reinforced concrete pipes:

Where concrete pipes are laid between structures, manholes or junction boxes, laying of pipes shall commence at the manhole or junction box at the lower end of the pipeline with full length pipes with the last pipe cut to form a closure piece for building into the structure, manhole or junction box at the upper

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end of the pipeline. Only the last pipe at the upper end of the pipeline shall be cut to avoid problems with jointing.

PSLD 5.2.9 Fibre cement pipes:

Where fibre cement pipes are laid between structures, manholes or junction boxes, laying shall commence at the lower end of the line with a short length 500 mm or 2,5 times the internal diameter of the pipe, whichever length is the longer (with both ends machined to suit a flexible coupling) and thereafter by full length pipes with the last pipe cut so as to allow the insertion of a short length as at the lower end of the line.

PSLD 5.2.10 Cut Pipes:

In the case of concrete pipes, after the cut end has been finished off it shall be painted with two coats of bituminous paint to provide protection to the exposed ends of the reinforcing steel in the pipe.

In the case of FC pipes the cut ends shall be machined to the correct outside diameter with appropriate tools. All work performed on the cut ends shall be done to the entire satisfaction of the Engineer.

PSLD 8 MEASUREMENT AND PAYMENT

Add the following pay items:

PSLD 8.3 Building pipes into concrete work

- (a) Pipes supplied and installed by the Contractor (irrespective of type)
 - (i) (state diameter of pipe) unit: number (No)
 - (ii) (etc. for other diameters) unit: number (No)
- (b) Pipes supplied and installed by the Plant Supplier (irrespective of type)
 - (i) (state diameter of pipe) unit: number (No)
 - (ii) (etc. for other diameters) unit: number (No)

The unit of measurement shall be the number of pipes built into the concrete work as shown on the drawing.

The tendered rate shall include full compensation for supplying all materials (wet to dry epoxy in the case of casting new concrete against the faces of old concrete) concreting in the pipes, cutting and placing formwork to fit around pipes and neatly finishing to conform to a smooth surface finish.

In the case of the Contractor building in his own pipes the rate shall also include for holding the pipe in position and aligning the pipes to the correct levels as indicated on the drawing or as ordered by the Engineer.

PSLD 8.4 Supplying and building high density polyethylene (HDPE) pipes as specified in SANS 1200 LF into concrete work (for cable sleeves or pipe sleeves)

- (a) (state diameter and class) unit: metre (m)
- (b) (etc. for other diameters) unit: metre (m)

The unit of measurement shall be the linear metre of pipe installed.

The tendered rate shall include full compensation for supplying, fixing, holding in of pipes.

The rate shall further include for draw wires position during concreting in stainless steel and for cutting ends to the required levels for installation of cables by the Electrical Contractor or after installing pipework through the ducting. The ends shall be closed to prevent ingress of rubbish and water.

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PSLD 8.5 Extra over item LD 8.2.1 for cutting and trimming ends of concrete pipes to form closure pieces in the pipeline (measured per cut end)

- (a) For type or class of pipe, state diameter unit:number (No)
- (b) etc. for different class or types of pipes, state diameters unit:number (No)

The unit of measurement shall be the number of cut ends in the pipeline. The tendered rate shall include full compensation for the cutting of the pipe, including trimming of cut ends, pipe wastage and supplying and applying two coats of bituminous paint to cut ends to protect the reinforcing steel against corrosion.

PSLD 8.6 Extra over LD 8.2.1 for supplying and laying of FC pipes for cutting pipes to provide short lengths of pipe to form flexible connections in the pipeline (measured per cut end)

- | | |
|---|------------------|
| (a) (for type or class of pipe, state diameter) | unit:number (No) |
| (b) (etc. for different class or types of pipes state diameter) | unit:number (No) |

The unit of measurement shall be the number of cut ends in the pipeline.

The tendered rate shall include full compensation for cutting wastage and trimming the end of the pipe to suit the standard flexible coupling.

PSLD 8.7 Supplying and building pipes into concrete work as shown on the drawing (state drawing number) for draught tubes

- | | |
|--|------------------|
| (a) (state diameter class, type of pipe) | unit:number (No) |
| (b) etc. for other pipe (diameter sizes and classes) | unit:number (No) |

The unit of measurement shall be the number of pipes built into concrete work.

The tendered rate shall include full compensation for supply of all materials building into concrete work and holding in position during building in all as shown on the drawing.

PSLE STORMWATER DRAINAGE

Clause in **VARIATION**
SABS 1200LE

PSLE 1 SCOPE

PSLE 1.1 **Add the following:**

This specification covers all the work in connection with the construction of subsurface drains and drainage blankets at the locations and to the size, shapes, grades and dimensions as shown on the Drawings or as directed by the Engineer.

PSLE 3 MATERIAL

PSLE 3.5 GEOFABRIC BLANKET

Delete this Sub-Clause and refer to Sub-Clause PSLE 3.7(c).
Add the following Sub-Clauses:

PSLE 3.6 Pipes

Pipes for subsurface drains shall be of the following type as specified:

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Perforated or slotted unplasticized PVC pipes which comply with the requirements of SABS 791.

The size of perforations in perforated pipes shall in all cases be 8 mm in diameter $\pm$ 1.5 mm, and the number of perforations per metre shall not be fewer than 26 for 100 mm pipes and 52 for 150 mm pipes. Perforations shall be spaced in two rows for 100 mm pipes and in four rows for 150 mm pipes.

Slotted pipes shall have a slot width of 8 mm with a tolerance of 1.5 mm in width. The arrangement of slots shall be subject to the Engineer's approval, but the total slot area shall not be less than that specified for perforations.

Pipes without slots or perforations required for transporting subsoil water from the subsoil drain proper to the point of discharge shall be unperforated PVC pipes of the types specified above, or concrete pipes, which comply with the requirements of SABS 677 Class A.

PSLE 3.7 Permeable material

Sand, crushed stone and geotextiles used as permeable filter materials for subsurface drains and drainage blankets shall conform to the following requirements.

(a) Sand

Sand shall be clean, hard sand obtained from approved sources. The grading of the sand shall be subject to the Engineer's approval. The requirements in respect of each type and the comparative prices of sand from the available sources will determine which source is to be used. The Contractor shall submit samples and prices from available sources when so instructed by the Engineer.

(b) Crushed stone

Crushed stone shall be clean, hard, durable crushed stone from approved sources. The aggregate crushing value of the stone shall not exceed 30 when tested in accordance with method B1 of TMH1.

(i) Crushed stone for graded filters

Crushed stone for graded filters shall conform to the grading requirements set out below:

Grade	Sieve size (mm)	Percentage passing by mass
Fine grade	26,5	100
	13,2	60 - 85
	3,35	15 min
	1,18	15 max
Coarse grade	26,5	100
	13,2	60 - 85
	6,70	15 min
	2,36	15 max

The aggregate shall be evenly graded between the coarse and fine fractions with no undue discontinuities. The Engineer shall indicate the grade of stone required.

(ii) Crushed stone for filters which incorporate geotextiles

Crushed stone for filters which incorporate geotextiles shall be nominally sized stone which conforms to the grading requirements of SABS 1083, or crushed stone which complies with the grading requirements for graded filters. The Engineer shall indicate the type of stone to be used in each particular case.

(c) Geotextiles

Geotextiles shall be a non-woven, spun or thermic-bonded continuous filament fabric consisting of at least 85% by mass of polypropylene, polyester or other approved material and manufactured for civil-engineering applications by a recognized manufacturer. The brand and type of geotextile to be used shall be as specified in the Project Specifications or on the Drawings or as directed by the Engineer.

PSLE 3.8 POLYETHYLENE SHEETING

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Polyethylene sheeting shall be black in colour with a minimum thickness of 0.15 mm and manufactured by a recognized manufacturer.

PSLE 5 CONSTRUCTION

PSLE 5.2.4 Pipes with open joints laid with Geofabric Blanket wrapping

Delete this Sub-Clause and refer to Sub-Clause PSLE 3.6.

Add the following Sub-Clauses:

PSLE 5.8 Graded filter drains

After the completion of the excavations, the bottom portion of the trench shall be lined with polyethylene sheeting as shown on the Drawings. The top edges of the vertical portions of the sheeting shall be tacked to the sides of the excavation with nails or by any other suitable approved means. The sheeting shall be heat-welded at the laps. Sheeting damaged during installation or construction shall be replaced at the Contractor's cost.

A layer of permeable material of the class and thickness as shown on the Drawings shall be placed on the polyethylene sheeting on the bottom of the trench and shall be lightly tamped and finished to the required gradient to serve as a bedding for the pipes.

Pipes of the type and size required shall then be firmly bedded in the permeable material, true to level and grade, and shall be coupled where required. Where spigot-and-socket pipes are used, the socket ends shall be laid upgrade with the spigot fully entered into the adjacent socket. Where plain butt-ended pipes are used, they shall be laid firmly together to prevent the infiltration of backfill material. Perforated and slotted pipes shall be joined by couplers. Perforated pipes shall be laid with the perforations at the top unless otherwise shown on the Drawings or instructed by the Engineer, in writing. The higher end of a subsurface drain pipe shall be sealed off with a loose concrete cap, and at the lower end the pipe shall be built into a concrete headwall to provide a positive outlet, or it shall be connected to stormwater pipes or culverts, all as shown on the Drawings or as directed by the Engineer.

Successive layers of permeable material, shall be placed after the pipes have been laid. Permeable material shall be placed in layers not exceeding 300 mm at a time, and shall be lightly compacted. The total thickness of each type of permeable material shall be carefully controlled by means of spacers. When successive layers are placed, the lower layer shall not be walked on and shall, as far as is possible, not be disturbed. Care shall be taken to prevent the contamination of permeable material during construction of the subsurface drains, and all permeable material contaminated by the soil or silt shall be removed and replaced by the Contractor at his expense. Care shall also be taken at all stages not to perforate or otherwise damage the polyethylene lining.

The remainder of the trench shall be immediately backfilled with approved impermeable material preferably obtained from the excavations, in layers not exceeding 100 mm and compacted to 90% of modified AASHTO density, unless otherwise ordered by the Engineer. The trench must be specially protected against the ingress of water, soil and silt until the backfilling with impermeable material has been completed.

Permeable material in subsoil drains shall not be taken to the surface but shall be discontinued at such heights as will be determined by the Engineer.

Any section of a subsurface drain constructed from pipes without perforations or slots shall be backfilled with impermeable backfill material as described above.

PSLE 5.9 FILTER DRAINS WHICH INCORPORATE GEOTEXTILES

After the completion of the excavations, the bottom portion of the trench shall be lined with geotextile sheeting as shown on the Drawings. The top edges of the vertical portions of the geotextile sheeting shall be tacked to the sides of the excavation with nails or by another suitable approved means. An overlap of at least 200 mm shall be provided at each joint. Geotextile sheeting damaged during the installation or construction shall be replaced at the Contractor's cost.

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The specifications set out in PSLE 5.8 above for the construction of the pipe bedding, the pipe laying, and the placing of the crushed stone filter materials for graded filter drains shall apply mutatis mutandis to filter drains which incorporate geotextiles.

After the pipes have been laid and the specified layer of crushed stone filter material has been completed, the protruding vertical sections of the geotextile sheeting shall be folded back across the filter material so that the filter material will be completely enwrapped in the geotextile sheeting. An overlap of at least 200 mm shall be provided between the portions folded back.

The specifications set out in Sub-Clause PSLE 5.8 above shall apply mutatis mutandis to the placing of the remaining layers of permeable material and the top layer of impermeable material, all as shown on the Drawings or ordered by the Engineer.

PSLE 5.10 Drainage blankets

Drainage blankets shall be constructed in accordance with the details shown on the Drawings. Firstly geotextile sheeting shall be laid on top of the layer on which the drainage blanket is constructed. Then permeable material of the type specified shall be spread on the geotextile sheeting to the specified depth. The Contractor shall take care not to damage the geotextiles. The permeable material shall be lightly compacted and finished to the required level. To complete the drainage blanket, geotextile sheeting shall be laid on the layer of permeable material.

The layers on top of the drainage blanket shall be constructed in such a manner that the permeable material or the geotextile sheeting will not be displaced or damaged. Normally material which is to be compacted on top of the drainage blanket shall be watered and mixed before it is placed on the blanket. It shall then only be necessary to level and compact the material on the blanket.

PSLE 8 MEASUREMENT AND PAYMENT

Add the following pay items

PSLE 8.2.14 Crushed stone

- (a) Graded crushed stone (specify grade) unit:cubic metre (m)
- (b) Single-sized crushed stone (specify nominal aggregate size) unit:cubic metre (m)

The unit of measurement for graded or single sized crushed stone shall be the cubic metre of crushed stone in place, calculated according to the authorized dimensions.

The tendered rate shall include full compensation for the construction of the crushed stone layers as specified.

No overhaul shall be paid on crushed stone for subsurface drains and drainage blankets.

For payment purposes a distinction shall be made between the different grades and sizes of crushed stone.

PSLE 8.2.15 Procuring of filter sand unit:provisional sum

The provisional sum allowed to cover the cost of authorized expenditure incurred in procuring, transporting and furnishing approved filter sand including the cost of transporting the material to the Site, shall be expended in accordance with the provisions of Clause 60 of the General Conditions of Contract

PSLE 8.2.16 Placing of filter sand unit:cubic metre (m)

The unit of measurement shall be the cubic metre of filter sand measured in place and calculated from the authorized dimensions

The tendered rate shall include full compensation for the construction of the filter sand layers as specified.

PSLE 8.2.17 Geotextiles (specify type, grade,brand, etc) unit:square metre (m²)

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The unit of measurement shall be the square metre of geotextiles installed, calculated from the authorized dimensions, including the specified overlap on the top surface of filter drains but not at the joints.

The tendered rate shall include full compensation for the construction of the geotextiles, as specified

PSLE 8.2.18 Pipes in subsurface drains

(a) (Type of pipe indicated) complete with couplings:

(i) (diameter and whether perforated or not, indicated) unit:metre (m)

(ii) etc. for other diameters

(b) (Type of fitting indicated)

(i) (diameter indicated) unit:number (No)

(ii) etc. for other diameters unit:number (No)

(c) Etc. for other types of pipes

(d) Etc. for other types of fittings

The unit of measurement for pipes shall be the metre of pipe, measured in place along its centre line, including the length of fittings.

The unit of measurement for fittings shall be the number of fittings, irrespective of the type

The tendered rate shall include full compensation for the construction of the pipes and fittings as specified.

PSLE 8.2.19 Polyethylene sheeting (state thickness or an equivalent approved material, for lining subsurface drains) unit:square metre (m²)

The unit of measurement shall be the square metre of polyethylene sheeting installed, measured net from the specified dimensions

The tendered rate shall include full compensation for the construction of the sheeting as specified.

PSLE 8.2.10 Concrete outlet structures for subsurface drains, including formwork (specify class of concrete) unit:cubic metre (m)

The unit of measurement shall be the cubic metre of the specified class of concrete provided for outlet structures for subsurface drains

The tendered rate shall include full compensation for the construction of the outlet structures as specified, including formwork, excavation and backfilling.

PSLE 8.2.21 Concrete caps for subsurface drain pipes unit:number (No)

The unit of measurement shall be the number of caps supplied, and the tendered rate shall include full compensation for supplying and installing the caps as specified.

NOTE: For items PSLE 8.2.14 to PSLE 8.2.18 excavations for subsurface drains shall be measured in accordance with SABS 1200D or SABS 1200DB where applicable.

PSM ROADS (GENERAL)

Clause in SABS 1200M	VARIATION
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PSM 7 TESTING

The costs of all prescribed testing must be included in the unit rate of the particular item to be tested.

PSM 7.3.1 Routine Inspection and Testing

If the routine inspection and tests carried out by the Engineer shows that the quality of materials do not comply with the requirements, the costs of such tests and any following tests to ensure that the requirement of the specifications are met, shall be borne by the Contractor.

PSME SUBBASE

Clause in VARIATION
SABS 1200ME

PSME 3.2 Physical Properties

Drawing ME-1 (c) shall apply for this Contract.

PSME 3.2.2 Gravel wearing course material

Material for the gravel wearing course shall be obtained from a mine dump within the freehaul area. The material shall be screened and shall be modified with in situ sandy material to comply with the following grading:

Nominal opening of sieve (mm)	Percentage passing by mass
37.5	85 - 100
19.0	60 - 100
4.75	30 - 65
1.18	16 - 43
0.03	9 - 27
0.075	5 - 15

PSGA CONCRETE (SMALL WORKS)

Clause in	VARIATION
SABS 1200GA	

PS GA 3.2 CEMENT

PS GA 3.2.1 Applicable Specifications

CEM I and II shall not be used without prior approval from the Engineer.

PS GA 3.2.2 Storage of Cement

Cement shall not be kept in storage for longer than 12 weeks.

PS GA 3.4 AGGREGATES

PS GA 3.4.2 Use of Plums

The use of plums will not be permitted.

PS GA 5 CONSTRUCTION

PS GA 5.1.2 Fixing

Welding of reinforcement will not be permitted.

PS GA 5.2 FORMWORK

PS GA 5.2.1 Classification of Finishes

The finish of exposed concrete surfaces shall be "Smooth" as detailed in paragraph (b) of sub-clause 5.2.1.

PS GA 5.4 CONCRETE

PS GA 5.4.1.2 Consistency

The slump shall comply with the limits given in Table 2 unless otherwise shown on the Drawings.

PS GA 5.4.1.5 Strength Concrete

The concrete grade is specified on the drawings and in the Schedule of Quantities by the required minimum strength after 28 days in MPa and the maximum size of coarse aggregate in the mix; for example, Grade 25/19 of concrete denotes a concrete with a minimum crushing strength of 25 MPa after 28 days and with a 19mm maximum size coarse aggregate.

The required mix to obtain the specified strength grade will be confirmed by the Engineer.

PS DM EARTHWORKS (ROADS, SUBGRADE)

**Clause in SABS VARIATION
1200DM**

PSDM 5.2.2.4 Temporary Stockpiling of Materials

The Contractor shall programme the Works in such a way that double handling of material is minimised. No additional payment for temporary stockpiling or extra handling where materials must be stockpiled temporary, shall be made.

PSDM 5.2.4.3 Topsoiling

The final thickness of topsoil shall be at least 100 mm.

PSDM 5.2.8.2 Overhaul

For this Contract freehaul will be regarded as all haulage within the boundaries of the Site of Works as well as a distance of 1 km outside the boundaries.

PSDM 7.2 Process Control

The Contractor shall provide and maintain laboratory equipment on site to perform the following tests:

- (a) Indicator Tests.
- (b) Sieve Analysis.
- (c) Field Compaction Tests.
- (d) California Bearing Ratio's (C.B.R.'s).

PS DM 8 MEASUREMENT AND PAYMENT:

PS DM 8.3 Scheduled items

PS DM 8.3.16 Gravel surface layer

Change the clause to the following:

Measurement will be by volume (compacted in place) calculated by the method of average end areas.
The rate shall cover the cost of grading the road

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C3.3

PARTICULAR SPECIFICATIONS

In addition to the Standardised and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

PART B	PROJECT SPECIFIC – CONSTRUCTION RELATED
PART C	ENVIRONMENTAL MANAGEMENT SPECIFICATION
PART D	DAYWORKS
PART E	OHSA 1993 SAFETY SPECIFICATION
PART F	SMALL CONTRACTOR DEVELOPMENT, TRAINING AND COMMUNITY LIAISON

PART B: PROJECT SPECIFIC – CONSTRUCTION RELATED

**PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION GENERIC ENVIRONMENTAL
SPECIFICATION**

1. Method Statements

The Contractor shall not commence the activity until the Method Statement has been approved and shall, except in the case of emergency activities, allow a period of two weeks for approval of the Method Statement by the Engineer/ECO. Such approval shall not unreasonably be withheld.

The Engineer/ECO may require changes to a Method Statement if the proposal does not comply with the specification or if, in the reasonable opinion of the Engineer/ECO, the proposal may result in, or carries a greater than reasonable risk of, damage to the environment in excess of that permitted by the Specifications.

Approved Method Statements shall be readily available on the site and shall be communicated to all relevant personnel. The Contractor shall carry out the Works in accordance with the approved Method Statement. Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the Contract.

2. Environmental Awareness Training

It is a requirement of this contract that environmental awareness training courses are run for all personnel on site. All employees who spend more than 1 day a week or four days in a month on Site must attend the training. Two types of course shall be run: one for the Contractors and Subcontractors management and the other one for all site staff and labourers. Courses shall be run during normal working hours at a suitable venue provided by the Contractor.

All attendees shall remain for the duration of the course and sign an attendance register that early indicates participant's names on completion, a copy of which shall be handed to the Engineer/ECO. The size of each session shall be limited to the numbers shown in the Project Specification and the Contractor shall allow for sufficient sessions to train all personnel. Subsequent sessions shall be run for any new personnel coming onto site. A Method Statement with respect to the organisation of these courses shall be submitted. Conduct revised training as and when required.

Notwithstanding the specific provisions of this clause it is incumbent upon the Contractor to convey the sentiments of the EMP to all personnel involved with the works.

2.1. Training course for management and foremen

The environmental awareness training course for management shall include all management and foremen. The course, which shall be presented by the Engineer/ECO/EO or his designated representative, is of approximately one-hour duration. The initial course shall be undertaken not more than 7 days prior to commencement of work on site.

2.2. Training course for site staff and labour

The environmental awareness training course for site staff and labour shall be presented by the Contractor from material provided by the Engineer/ECO/EO unless otherwise indicated in the Project Specification. The course is approximately one-hour long. The course shall be run not more than 7 days after commencement of work on site with sufficient sessions to accommodate all available personnel.

3. Contractor's Environmental Representative

The Contractor shall appoint an environmental representative (called an Environmental Site Officer) who shall be responsible for undertaking a daily site inspection to monitor compliance with this Specification and the relevant Project Specification. The Contractor shall forward the name of the environmental representative to the Engineer/ECO/EO for his approval seven days prior to the date of the environmental awareness training course. The Contractor's environmental representative shall complete daily Site Inspection Forms and these shall be submitted to the Engineer/ECO/EO once a week.

4. Site division, demarcation and no-go areas

The Contractor shall restrict all his activities, materials, equipment and personnel to within the area specified. The area of the site shall be fenced where possible.

A Method Statement detailing the layout and method of establishment of the construction camp (including all buildings, hostels, offices, lay down yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure required for the running of the project) shall be provided.

As required by the Project Specification, the Contractor shall erect and maintain permanent and/ or temporary fences of the type and in the locations directed by the Engineer/ECO/EO. Such fences shall, if so specified, be erected before undertaking designated activities.

If so required by the Project Specification, certain areas shall be "no go" areas. The Contractor shall ensure that, insofar as he has the authority, no person, machinery, equipment or material enters the "no go" areas at any time.

5. Access routes/ haul roads

On the Site, and, if so required by the Project Specification, within such distance of the Site as may be stated, the Contractor shall control the movement of all vehicles and plant including that of his suppliers so that they remain on designated routes, are distributed so as not to cause an undue concentration of traffic and that all relevant laws are complied with. In addition, such vehicles and plant shall be so routed and operated as to minimise disruption to regular users of the routes not on the Site. On gravel or earth roads on Site and within 500m of the Site, the vehicles of the Contractor and his suppliers shall not exceed a speed of 45 km/hr. as far as possible the Contractor shall use existing access and haul routes. Damage to the existing access roads as a result of construction activities shall be repaired to the satisfaction of the Engineer/ECO/EO, using material similar to that originally used. The cost of the repairs shall be borne by the Contractor.

6. Construction personnel information posters

As required by the Project Specification, the Contractor shall erect and maintain information posters for the information of his employees depicting actions to be taken to ensure compliance with aspects of the Specifications. Such posters shall be erected at the eating areas and any other locations specified by the Engineer/ECO/EO.

7. Fire control

No fires may be lit on site. Any fires, which occur, shall be reported to the Engineer/ECO/EO immediately. Smoking shall not be permitted in those areas where it is a fire hazard. Such areas shall include the workshop and fuel storage areas and any areas where the vegetation or other material is such as to make liable the rapid spread of an initial flame. In terms of the National Environmental Management: Air Quality Act and Community Fire Safety Bylaw, burning is not permitted as a disposal method.

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The Contractor shall appoint a Fire Officer who shall be responsible for ensuring immediate and appropriate actions in the event of a fire and shall ensure that employees are aware of the procedure to be followed. The Contractor shall forward the name of the Fire Officer to the Engineer/ECO/EO for his approval.

The Contractor shall ensure that there is basic fire-fighting equipment available on Site at all times. This shall include at least rubber beaters when working in urban open spaces and fynbos areas, and at least one fire extinguisher of the appropriate type when welding or other "hot" activities are undertaken.

1. The Contractor shall ensure that the basic fire-fighting equipment is to the satisfaction of the Local Fire Services.
2. The Contractor shall supply all living quarters, site offices, kitchen areas, workshop areas, materials, stores and any other areas identified by the Engineer/ECO/EO with tested and approved fire fighting equipment.
3. Fire and "hot work" shall be restricted to a site approved by the Engineer/ECO/EO.
4. A braai facility may be considered at the discretion of the Engineer/ECO/EO.

8. Emergency procedures

The Contractor shall submit Method Statements to the Engineer/ECO/EO covering the procedures for the following emergencies:

i) Fire

The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall ensure that his employees are aware of the procedure to be followed in the event of a fire.

ii) Accidental leaks and spillages

The Contractor shall ensure that his employees are aware of the procedure to be followed for dealing with spills and leaks, which shall include notifying the Engineer/ECO/EO and telephoning relevant people (from a cell phone) and the relevant authorities. The Contractor shall ensure that the necessary materials and equipment for dealing with spills and leaks is available on Site at all times. Treatment and remediation of the spill areas shall be undertaken to the reasonable satisfaction of the Engineer/ECO/EO.

In the event of a hydrocarbon spill, the source of the spillage shall be isolated, and the spillage contained. The area shall be cordoned off and secured. The Contractor shall ensure that there is always a supply of absorbent material readily available to absorb/ breakdown and where possible is designed to encapsulate minor hydrocarbon spillage. The quantity of such materials shall be able to handle a minimum of 200 l of hydrocarbon liquid spill.

9. Safety

Telephone numbers of emergency services, including the local firefighting service, shall be posted conspicuously in the Contractor's office near the telephone. In the event of an emergency, the Contractor shall contact the emergency call centre availed for that specific emergency available in the area.

No unauthorised firearms are permitted on Site.

10. Community relations

If so required by the Project Specification, the Contractor shall erect and maintain information boards in

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PART D: DAYWORKS

This part of the Project Specifications deals with the provision for Dayworks in the Bill of Quantities. Rates for Dayworks shall be entered in Dayworks Schedule of the Bill of Quantities in accordance with the following specifications.

D. 1 SCOPE

According to clause 6.5 of the General Conditions of Contract (GCC) for construction works third edition (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 are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.4 of the GCC.

No work will be paid for as Dayworks without the written instruction or approval of the Engineer.

D. 2 TYPE OF WORK

The Engineer 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 Engineer. Dayworks will only be used in exceptional circumstances.

D. 3 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 Dayworks Schedule for Daywork materials. The Contractor shall enter a tendered percentage in the schedule 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 the Pricing Data. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in Dayworks with his dayworks claim to the Engineer. Further, if specific materials are required for Dayworks, quotations will be called for as per Clause 6.5.2 of the GCC.

D. 4 CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section 1800 of Schedule A shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the schedule 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 GCC will be used.

The tendered rates for each item of constructional plant shall include for 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 dayworks.

D. 5 SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the

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tendered rates in Section 1800 of Schedule A . 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 dayworks.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the Dayworks 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 Engineer, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

D. 6 MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of Dayworks.

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 Sub-clauses 6.5.3 and 6.5.4 of the GCC with regard to the submission of Dayworks claims.

PART E OHS 1993 SAFETY SPECIFICATION

Generic occupational health and safety specification for construction work contracts

1 Scope

This health and safety specification in respect of a construction work contract:

- a) provides the overarching framework within which the contractor is required to demonstrate compliance with certain requirements for occupation health and safety established by the Occupational Health and Safety Act of 1993 during construction;
- b) establishes the manner in which the contractor is to manage the risk of health and safety incidents in during the construction; and
- c) establishes the manner in which the employer's health and safety agent will interact with the contractor.

Note 1 This specification establishes generic requirements to enable the employer and the contractor to satisfy aspects of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Construction Regulations, 2014. The contractor is required to develop, implement and maintain package specific health and safety plans. The employer is required to provide certain package specific information to the contractor or a health and safety specification for the works to enable such plans to be formulated. Accordingly, this generic specification on its own cannot ensure compliance with the requirements of the aforementioned Act (See Annexure A).

Note 2 The Construction Regulations, 2014, require an employer to stop any contractor from executing construction work which is not in accordance with the contractor's health and safety plan for the site or which poses to be a threat to the health and safety of persons.

Note 3 This specification establishes generic health and safety requirements. Site specific requirements for health and safety are stated in the scope of work associated with a contract (see Annexure A).

Note 4 The South African Council for the Project and Construction Management Professions has established the following specified categories of registration in terms of the Project and Construction Management Professions Act of 2000 (Act No. 48 of 2000):

- a) a Construction Health and Safety Agent who may be appointed by an employer to act as his agent in terms of the Occupational Health and Safety Act of 1993 and the Construction Regulations issued in terms of that Act;
- b) a Construction Health and Safety Manager who may be appointed by an employer to complement his professional team or by a contractor to manage company or project health and safety performance and compliance in accordance with the Occupational Health and Safety Act and Regulations; and
- c) a Construction Health and Safety Officers who may be appointed by an employer to mitigate the risk on a project or by a contractor to monitor and assist on-site health and safety performance and compliance in accordance with the Occupational Health and Safety Act and Regulations and services.

2 Definitions

Act: The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

contractor: person or organization that contracts to provide the work covered by the contract

contract manager: person appointed by the employer to administer the contract on his behalf

competent person: any person who:

- a) has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications specific to that work or task; and
- b) is familiar with the Act and applicable regulations made in terms of the Act

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Note: The Regulations stipulate that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act of 2000, those qualifications and training must be regarded as the required qualifications and training.

danger: anything which may cause injury or damage to persons or property

employer: person or organisation that enters into a contract with the contractor for the provision of the work covered by the contract

employer's health and safety agent: the person appointed as agent by the employer in terms of Regulation 4(5) of the Construction regulations and named in the contract data as the being the employer's agent responsible for health and safety matters

ergonomics: the application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimise human well-being and overall system performance

hazard: a source of or exposure to danger

hazard identification: the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed

health and safety plan: a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified

health and safety specification: a site, activity or project specific document pertaining to all health and safety requirements related to construction work which is included in the contractor's contract with the employer or an order issued in terms of framework agreement

healthy: free from illness or injury attributable to occupational causes

incident: an event or occurrence occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which:

- a) any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;
- b) a major incident occurred; or
- c) the health or safety of any person was endangered and where:
 - i) a dangerous substance was spilled;
 - ii) the uncontrolled release of any substance under pressure took place;
 - iii) machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or machinery ran out of control

Inspector: a person designated as such under section 28 the Act

Major incident: an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace

Reasonably practicable: practicable having regard to:

- a) the severity and scope of the hazard or risk concerned;
- b) the state of knowledge reasonably available concerning that hazard or risk and of any means

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of removing or mitigating that hazard or risk;

- c) the availability and suitability of means to remove or mitigate that hazard or risk; and
- d) the cost of removing or mitigating that hazard or risk in relation to the benefits deriving therefrom;

Risk: the probability that injury or damage will occur

Safe: free from any hazard

Scaffold: any temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both

Structure:

- a) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- b) any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
- c) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling

Substance: any solid, liquid, vapour, gas or aerosol, or combination thereof

Suitable: capable of fulfilling or having fulfilled the intended function or fit for its intended purpose

Temporary works: any false work, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction

Workplace: any premises or place where a person performs work in the course of his employment

3 Interpretation

2.1 The Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this specification.

3.2 **Compliance** with the requirements of this specification does not necessarily result in compliance with the provisions of the Act.

4 Requirements

4.1 General requirement

The contractor shall:

- a) create and maintain as reasonably practicable a safe and healthy work environment,
- b) execute the work in a manner that complies with all the requirements of the Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring;
- c) conspicuously display any site specific number assigned to the construction site in terms of the Construction Regulations 2014 at the main entrance to the site; and
- d) respond to the notices issued by the employer's health and safety agent as follows:
 - 1) Improvement Notice: improve health and safety performance over time so that repeat notices are not issued;

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- 2) Contravention Notice: rectify contravention as soon as possible;
- 3) Prohibition Notice: terminate affected activities with immediate effect and only recommence activities when it is safe to do so.

Note: Financial penalties can be applied should Contravention Notices be issued. This should be dealt with in the Contract Data.

4.2 Administration

4.2.1 Notification of intention to commence construction work

4.2.1.1 The contractor shall on sites where no construction work permit has been issued by the Provincial Director of the Department of Labour notify such director in writing using a form similar to that contained in Annexure 2 of the Construction Regulations issued in terms of the Act before construction work commences and retain proof of such notification in the health and safety file where the work includes:

- a) excavation work;
- b) working at height where there is a risk of falling;
- c) the demolition of a structure;
- d) the use of explosives; or
- e) a single storey dwelling for a client who is going to reside in such dwelling upon completion

4.2.1.2 The contractor shall ensure that no work commences on an electrical installation which requires a new supply or an increase in electricity supply before the person who supplies or contracts or agrees to supply electricity to that electrical installation has been notified of such work.

4.2.1.3 The contractor shall ensure that no asbestos work is carried out before the Provincial Director of the Department of Labour has been notified in writing.

4.2.2 Copy of the Act

The contractor shall ensure that a copy of the Act and relevant regulations is available on site for inspection by any person engaged in any activity on the site.

4.2.3 Good standing with the compensation fund or a licensed compensation insurer

The contractor shall before commencing with any work on the site provide the employer's health and safety representative with proof of good standing with the compensation fund or with a licensed compensation insurer.

4.2.4 Emergency procedures

4.2.4.1 The contractor shall submit for acceptance to the employer's health and safety agent an emergency procedure which include but are not limited to fire, spills, accidents to employees, exposure to hazardous substances, which:

- a) identifies the key personnel who are to be notified of any emergency;
- b) sets out details including contact particulars of available emergency services; and c) the

actions or steps which are to be taken during an emergency.

4.2.4.2 The contractor shall within 24 hours of an emergency taking place notify the employer's health and safety agent in writing of the emergency and briefly outline what happened and how it was dealt with.

4.2.5 Health and safety file

4.2.5.1 The contractor shall establish and maintain on site a health and safety file which contains copies, as relevant of:

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- a) The following documents which shall be placed in the file prior to commencing with physical construction activities
- 1) Copy of the contraction work permit issued in terms of the Construction Regulations 2014;
 - 2) the contractor's health and safety policy, signed by the chief executive officer, which outlines the contractor's objectives and how they will be achieved and implemented by the contractor;
 - 3) Copies of all risk assessments that were conducted
 - 4) The notification made to the Provincial Director of Labour, and if relevant, the notification of the person who supplies or contracts or agrees to supply electricity to that electrical installation;
 - 5) The letters of appointment, as relevant, together with a brief curriculum vita (CV) of:
 - the construction manager and any assistant construction managers;
 - the construction health and safety manager
 - the construction health and safety officer
 - the risk assessor who is tasked to perform the risk assessments; and
 - the registered person responsible for the electrical installation covered by the Electrical Installations Regulations;
 - the authorised persons responsible for gas appliances, gas system gas reticulation system covered by the Pressure Equipment Regulations;
 - 6) A copy of the certificate of registration of the registered person responsible for the electrical installation covered by the Electrical Installations Regulations;
 - 7) The approval of the design of the part of an electrical installation which has a voltage in excess of 1 kV by a person deemed competent in terms of the Electrical Installations Regulations;
 - 8) proof of registration of the electrical contractor who undertakes the electrical installation in terms of the Electrical Installations Regulations;
 - 9) the preliminary hazard identification undertaken by a competent person;
 - 10) The organogram which outlines the roles of the construction supervisor's assistants and safety officers; and
 - 11) The contractor's health and safety plan;
 - 12) The emergency procedures;
 - 13) The procedure for the issuing and replacement of lost, stolen, worn or damaged personal protective clothing and equipment; and
 - 14) Proof that the contractor and all the subcontractors are registered and in good standing with the compensation fund or with a licensed compensation insurer relevant to the type of work performed;
- b) The following documents, as relevant, which shall be placed in the file after construction activities have commenced
- 1) the letters of appointments, if relevant, together with a brief curriculum vita (CV) of:
 - persons who are required to assist the construction supervisor;
 - construction supervisor for the site in respect of construction work covered by the Construction Regulations;
 - competent persons;
 - assistants of construction supervisor; and
 - designers of temporary works;
 - 2) Any revisions to the organogram which outlines the roles of the construction supervisor's assistants and safety officers;

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- 3) Each and every subcontract agreement and each and every subcontractor's approved health and safety plan;
- 4) Proof that every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer relevant to the type of work performed;
- 5) Proof of all subcontractor's induction training whenever it is conducted;
- 6) Copies of the minutes of the contractor's subcontractor's health and safety meetings;
- 7) Copies of each of the contractor's subcontractors' health and safety policy, signed by the chief executive officer, which outlines the contractor's objectives and how they will be achieved and implemented by the contractor;
- 8) The health and safety plans of all the contractor's subcontractors who are required to provide such plans;
- 9) Copies of the fall protection plan and each revision thereof;
- 10) A comprehensive and updated list of all the subcontractors employed on site by the contractor, indicating the type of work being performed by such sub-contractors;
- 11) The outcomes of the monthly audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site;
- 12) Any report made to an inspector by the health and safety committee;
- 13) The minutes of all health and safety meetings and any recommendations made to the contractor by the health and safety committee;
- 14) The findings of all audit reports made regarding the implementation of the contractor's or a subcontractor's health and safety plan;
- 15) The inputs of the safety officer, if any, into the health and safety plan;
- 16) Details of induction training conducted whenever it is conducted including the list of attendees;
- 17) Proof of the following where suspended platforms are used:
 - a certificate of system design issued by a professional engineer, professional certificated engineer or a professional engineering technologist;
 - proof of competency of erectors, operators and inspectors;
 - proof of compliance of operational design calculations with requirements of the system design certificate;
 - proof of performance test results;
 - sketches indicating the completed system with the operational loading capacity of the platform;
 - procedures for and records of inspections having been carried out;
 - procedures for and records of maintenance work having been carried out;
 - proof that the prescribed documentation has been forwarded to the provincial director;
- 18) Letters of appointments for competent persons to supervise the activities which law requires to be so supervised;
- 19) A copy of risk assessments made by competent persons;
- 20) Records of the register of inspections made by a competent person immediately before and during the placement of concrete or any other load on formwork;
- 21) The names of the first aiders on site and copies of the first aid certificates of competency;

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- 22) The names of the persons who are in possession of valid certificate of competency in first aid and copies of such certificates;
- 23) Medical certificates of fitness for the contractor's and subcontractors' employees specific to the construction work to be performed and issued by an occupational health and safety practitioner;
- 24) Details of all incidents together with the Contractor's investigative report on such incident;
- 25) The record of inspections carried out by the designers of structures to ensure compliance with designs; and
- 26) any other documentation required in terms of regulations issued in terms of the Act including a record of all drawings, designs, materials used and other similar information concerning the completed structure;

4.2.5.2 The health and safety file shall be made available for inspection by any inspector, subcontractor, the contract manager, the employer's health and safety agent or employee of the contractor upon the request of such persons.

4.2.5.3 The health and safety file shall be updated to ensure that its contents always reflect the latest available information.

4.2.5.4 The contractor shall hand over a copy of the health and safety file to the employer's health and safety agent upon completion of the contract and if relevant, a certificate of compliance accompanied by a test report for the electrical installation in accordance with the provisions of the Electrical Installation Regulations.

4.2.6 Health and safety committee

4.2.6.1 The contractor shall convene health and safety meetings whenever more than two health and safety representatives have been appointed for the site. These meetings shall be attended by all health and safety representatives and persons nominated by the contractor. Such meetings shall be convened whenever necessary but at least once every month to:

- a) Make recommendations to the contractor regarding any matter affecting the health or safety of persons on the site; and
- b) Discuss any incident on the site in which or in consequence of which any person was injured, became ill or died.

4.2.6.2 The contractor shall consult with the health and safety committee on the development, monitoring and review of the risk assessment.

4.2.6.3 The contractor shall ensure that minutes of the health and safety committee meetings are kept.

The employer's health and safety agent shall be invited to attend such meetings as an observer.

4.2.7 Inspections, formal enquires and incidents

4.2.7.1 The contractor shall inform the relevant safety representative:

- a) Beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
- b) as soon as reasonably practicable of the occurrence of an incident on the site.

4.2.7.2 The contractor shall record all incidents and notify the employer's health and safety agent of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incidence to an inspector of the department of labour and notify the Provincial Director of the Department of Labour of such incident within 7 days on the prescribed form

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4.2.7.3 The contractor shall investigate all incidents and issue the employer's health and safety agent with copies of such investigations.

4.2.7.4 The contractor shall in the event of an incident in which a person dies, or is injured to such an extent that he is likely to die, or suffered the loss of a limb or part of a limb:

- a) Notify the Provincial Director of the Department of Labour of such incident by telephone, facsimile or similar means of communication;
- b) Ensure that no person disturbs the site at which the incident occurred or remove any article or substance involved in the incident therefrom, without the consent of an inspector, unless an action is necessary to prevent a further incident, to remove the injured or dead, or to rescue persons from danger; and.
- c) Provide the Provincial Director of the Department of Labour with a report which includes the measures that the contractor or his subcontractor intend to implement to ensure a safe site as reasonably practicable.

4.2.7.5 The contractor shall notify the Provincial Director of the Department of Labour of the death of any person which results from injuries sustained in an incident.

4.2.8 Personal protective equipment and clothing

The contractor shall ensure that:

- a) All workers are issued with the necessary personal protective clothing;
- b) All workers are identifiable at all times by having the company for which they work for printed on the back or front of their overalls; and
- c) Clear procedures are in place for the replacement of lost, stolen, worn or damage personal protective clothing.

4.3 Appointments

4.3.1 Construction manager

The contractor shall appoint in writing one full time competent person as the construction manager with the duty of managing all the construction on a single site including that of ensuring occupational health and safety compliance. Where appropriate, the contractor shall appoint in writing one or more assistant construction managers.

4.3.2 Appointment of construction health and safety officers

The contractor shall after consultation with the employer after considering the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, prior to commencing the work and if necessary, appoint a full-time or a part-time suitably qualified health and safety officer to assist in the control of all health and safety related aspects on the site.

4.3.3 Construction supervisors

4.3.3.1 The construction manager shall in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

4.3.3.2 A contractor shall after considering the size of the project and if considered necessary, appoint in writing one or more competent employees for different sections of the work to assist the construction supervisor.

4.3.4 Competent persons

4.3.4.1 The contractor shall appoint in writing competent persons to supervise or inspect, as relevant, any of the following:

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- a) Formwork and support work operations;
- b) Excavation work;
- c) Demolition work;
- d) Scaffolding work operations;
- e) Suspended platform work operations;
- f) Material hoists;
- g) bulk mixing plants;
- h) temporary electrical installations;
- i) the stacking and storage of articles on the site; and
- j) fire equipment.

4.3.4.2 The contractor shall appoint in writing competent persons to:

- a) Induct employees in health and safety; and
- b) Prepare and update as necessary a fall protection plan and to provide the construction manager with a copy of the latest version of such plan.

4.3.5 Health and safety representatives

4.3.5.1 The contractor shall appoint in writing one health and safety representative for every 50 employees working on the site, whenever there are more than 20 employees on the site, to:

- a) Review the effectiveness of health and safety measures;
- b) Identify potential hazards and potential major incidents;
- c) In collaboration with his employer, examine the causes of incidents;
- d) Investigate complaints by any employee of the contractor relating to that employee's health or safety on the site;
- e) Make representations to the contractor on matters arising from a), b), c) or d) or on general matters affecting the health or safety of the employees at the workplace;
- g) Inspect the site with a view to, the health and safety of employees, at regular intervals;
- h) Participate in consultations with inspectors at the workplace and accompany inspectors on inspections of the workplace; and
- i) Participate in any internal health or safety audit.

4.3.5.2 The contractor shall provide the health and safety representatives with the necessary assistance, facilities and training to carry out the functions established in 4.3.1

4.4 Employer's health and safety agent

4.4.1 The employer's health and safety agent shall:

- a) audit the contractor's compliance with the requirements of this specification prior to the commencement of any physical construction activities on the site;

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- b) accept or reject the contractor's health and safety plans, giving reasons for rejecting such plans;
- c) monitor the effective implementation of all safety plans;
- d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this specification;
- e) visit the site at regular intervals to conduct site inspections, and based upon such visits issue, wherever necessary, Improvement Notices, Contravention Notices and Prohibition Notices, to the contractor or any of the contractor's subcontractors with a copy to the contract manager and, where relevant, to the contractor.

4.4.2 The contractor shall invite the employer's health and safety agent to audit compliance with the requirements of this specification before commencing with any physical construction activity on the site.

4.5 *Creating and maintaining a safe and healthy work environment*

4.5.1 General

4.5.1.1 The contractor shall with respect to the site and the construction work that are contemplated:

- a) cause a preliminary hazard identification to be performed by a competent person before commencing any physical construction activity;
- b) evaluate the risks associated with the identified hazard to the health and safety of such employees and the steps that need to be taken to comply with the Act; and
- c) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.

4.5.1.2 The contractor shall ensure that:

- a) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- b) no structure or part of a structure is loaded in a manner which would render it unsafe; and
- a) account of information, if any, provided by the designer of the structure is taken into account in the risk assessment;

Note: The information provided by the designer should outline known or anticipated dangers or hazards relating to the work and make available all information required for the safe execution of the work. It should provide as relevant, geotechnical information (or make reference to reports provided in the site information), the loading the structure is designed to withstand, the methods and sequence of construction.

4.5.1.3 The contractor shall carry out regular inspections and audits to ensure that the work is being performed in accordance with the requirements of this specification.

4.5.2 Risk assessment

4.5.2.1 The contractor shall before the commencement of any work on site and during construction work, cause a risk assessment to be performed by a competent person appointed in writing. Such an

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assessment shall as a minimum:

- a) identify hazards to which persons may be exposed to;
- b) analyse and evaluate the identified risks associated with the identified hazards;
- c) document a plan of safe work procedures, including the use of any personal protective equipment or clothing and the undertaking of periodic "toolbox talks" or inductions before undertaking hazardous work, to mitigate, reduce or control the risks and hazards that have been identified;
- d) provide a monitoring plan; and
- e) provide a review plan.

Note: A risk assessment is an important step in protecting workers as well as complying with the law. It helps to focus on the risks that really matter in a particular workplace – the ones with the potential to cause real harm. Workers and others have a right to be protected from harm caused by a failure to take reasonable control measures. The following four steps are suggested:

- 1) Identify the hazards by looking at what could reasonably be expected to cause harm, ask employees or their representatives what they think, obtain advice from trade associations or publications on health and safety, check manufacturer's instructions or data sheets for chemicals and equipment as they can be very helpful in spelling out the hazards and putting them in their true perspective, review accident and ill-health records, think about long-term hazards to health (eg high levels of noise or exposure to harmful substances) as well as safety hazards etc.
- 2) Identify who may be harmed and how by identifying how individuals and groups of people might be harmed i.e. what type of injury or ill health might occur.
- 3) Evaluate the risks and decide on precautions by doing everything 'reasonably practicable' to protect people from harm i.e. by looking at how things are done, what controls are in place and how the work is organised and comparing this against good practice to see if more can be done to bring practices up to standard. Consider if the hazard can be removed all together, and if not how can the risks be controlled so that harm is unlikely, e.g. try a less risky option (e.g. switch to using a less hazardous chemical); prevent access to the hazard (e.g. by guarding); organise work to reduce exposure to the hazard (e.g. put barriers between pedestrians and traffic); issue personal protective equipment (e.g. clothing, footwear, goggles etc.); and provide welfare facilities (e.g. first aid and washing facilities for removal of contamination).
- 4) Record the findings by writing down the findings of the risk assessment.

4.5.2.2 The contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

4.5.2.3 Notwithstanding the provisions of the fall protection plan, the contractor shall ensure that:

- a) all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;
- b) no person works in an elevated position, unless such work is performed safely as if working from a scaffold or ladder;
- c) notices are conspicuously placed at all openings where the possibility exists that a person might fall through such openings;
- d) fall prevention and fall arrest equipment is:

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- suitable and of sufficient strength for the purpose or purposes for which it is being used having regard to the work being carried out and the load, including any person, it is intended to bear; and
 - securely attached to a structure or plant and the structure or plant and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who is liable to fall;
- e) fall arrest equipment is only used where it is not reasonably practicable to use fall prevention equipment; and
- f) suitable and sufficient steps are taken to ensure, as far as is reasonably practicable, that in the event of a fall by any person, the fall arrest equipment or the surrounding environment does not cause injury to the person.

4.5.2.4 Where roof work is being performed on a construction site, the contractor shall ensure that it is indicated in the fall protection plan that:

- a) the roof work has been properly planned;
- b) the roof erectors are competent to carry out the work;
- c) no employees are permitted to work on roofs during inclement weather conditions or if weather conditions are a hazard to the health and safety of the employees;
- d) prominent warning notices are to be placed where all covers to openings are not of sufficient strength to withstand any imposed loads and where fragile material exists;
- e) the areas mentioned in paragraph (d) are to be suitably barricaded off to prevent persons from entering;
- f) suitable and sufficient platforms, coverings or other similar means of support have been provided to be used in such a way that the weight of any person passing across or working on or from fragile material is supported; and
- g) there is suitable and sufficient guard-rails or barriers and toe-boards or other similar means of protection to prevent, so far as is reasonably practicable, the fall of any person, material or equipment.

4.5.3 Health and safety plans

4.5.3.1 The contractor shall prior to commencing the work to which this specification applies, submit to the employer's health and safety agent for approval a suitable and sufficiently documented health and safety plan, based on this specification, the health and safety specification and the risk assessment that is conducted.

4.5.3.2 The health and safety plan shall as a minimum provide:

- a) the information contained in Table 1 in respect of each of the hazards associated with work falling within the scope of the contract); and
- b) an outline of the manner in which the contractor intends complying with the requirements of this specification.

Table 1: Example of the format of a health and safety plan

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What are the hazards relating to work tasks?	Who might be harmed and how?	What are the safe work procedures for the site?	What further action is necessary (monitoring and review)?	Action by whom	Action by when

4.5.3.3 The contractor shall discuss the submitted health and safety plan with the employer's health and safety agent, modify such plan in the light of the discussions and resubmit the modified plan for approval.

4.5.3.4 The contractor shall apply the approved health and safety plan from the date of its commencement and for the duration of the work to which this specification applies.

4.5.3.5 The contractor shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the employer's health and safety agent, but at least once every month.

4.5.3.6 The contractor shall review and update the health and safety plan whenever changes to the works are brought about or following the occurrence of an incident.

4.5.4 Responsibilities towards employees and visitors

4.5.4.1 The contractor shall as far as is reasonably practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards or safe work procedures.

4.5.4.2 The contractor shall ensure that all employees under his or her control and the employees of his subcontractors who are performing construction work are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof of such induction when working on site.

4.5.4.3 The contractor shall cause a record of training to be kept which indicates the training dates, the names, identity numbers and job description of all those who attended such training and the name, identity number and competence of the person who provided the training.

4.5.4.4 The contractor shall not allow or permit any employee to enter the site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

4.5.4.5 The contractor shall ensure that each visitor to a construction site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:

- a) undergoes health and safety instruction pertaining to the hazards prevalent on the site; and b) is provided with the necessary personal protective equipment.

4.5.4.6 The contractor shall provide suitable on-site signage to alert workers and visitors to health and

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safety requirements. Such signage shall include but not be limited to:

- a) unauthorized entrance prohibited;
- b) signage to indicate what personal protective equipment is to be worn; and c) activity related signs.

4.5.4.7 The contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

4.5.5 Subcontractors

4.5.5.1 The contractor may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to safely perform the work falling within the scope of the contract. Such a subcontract shall require that the subcontractor:

- a) co-operate with the contractor as far as is necessary to enable both the contractor and sub- contractor to comply with the provisions of the Act; and
- e) as far as is reasonably practicable, promptly provide the contractor with any information which might affect the health and safety of any person at work carrying out work or any person who might be affected by the work of such a person at work or which might justify a review of the health and safety plan.

4.5.5.2 The contractor shall provide any sub-contractor who is submitting a tender or appointed to perform a sub-contract falling within the scope of the contract, with the relevant sections of this specification and the health and safety specification.

4.5.5.3 The contractor shall discuss and negotiate with each subcontractor performing construction work the subcontractor's health and safety plan and approve that plan for implementation.

4.5.5.4 The contractor shall take reasonable steps as are necessary to ensure that:

- a) potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
- b) each subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to their performance of work on site;
- c) all the subcontractor's employees have a valid medical certificate of fitness specific to the construction work which are to be performed which is issued by an occupational health and safety practitioner;
- d) all sub-contractors co-operate with each other to enable each of those sub-contractors to comply with the requirements of the Act and associated regulations;
- e) each subcontractor performing construction work has and maintains a health and safety file containing the relevant information described in 4.2.5; and
- f) each sub-contractor's health and safety plan is implemented and maintained.

4.5.5.5 The contractor shall conduct periodic document verifications and audits for compliance with the approved health and safety plan of each and every sub-contractor working on the site at intervals agreed upon with such subcontractors, but at least once per month.

4.5.5.6 The contractor shall stop any subcontractor from executing construction work which is not in accordance with the contractor's or subcontractor's health and safety plan for the site or which poses a threat to the health and safety of persons.

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4.5.5.7 The contractor shall ensure that where changes to the works occur including design changes, sufficient health and safety information and appropriate resources are made available to subcontractor to execute the work safely.

4.5.5.8 The contractor shall ensure that:

- a) every subcontractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to work commencing on site;
- b) potential subcontractors submitting tenders have made provision for the cost of health and safety measures during the construction process; and
- c) every subcontractor has in place a documented health and safety plan prior to commencing any work on site which falls within the scope of the contract.

4.5.5.9 The contractor shall receive, discuss and approve health and safety plans submitted by subcontractors.

4.5.5.10 The contractor shall ensure that all subcontractors are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.

4.5.5.11 The contractor shall reasonably satisfy himself that all employees of subcontractors are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

4.5.5.12 The contractor shall satisfy himself and ensure that all subcontractor employees deployed in the site are:

- a) informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment; and
- b) issued with proof of health and safety induction training issued by a competent person and carry proof such induction when working on site.

4.5.5.13 The contractor shall undertake a risk assessment together with subcontractors whenever subcontractors are working in close proximity to other subcontractors particularly activities involve excavations, the moving of earth, the movement of heavy machinery and working at heights.

4.5.6 First aid, emergency equipment and procedures

4.5.6.1 The contractor shall where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment which includes the items listed in the General Safety Regulations issued in terms of the Act.

4.5.6.2 The contractor shall ensure that where there are more than 10 employees employed on the site that for every group of up to 50 employees at that workplace, at least one person is readily available during normal working hours, who is in possession of a valid certificate of competency in first aid.

4.5.7 Facilities for workers

4.5.7.1 The contractor shall provide and keep clean and fit for use at or within reasonable access of the site:

- a) at least one shower facility for every 15 workers;

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- b) at least one sanitary facility for every 30 workers;
- c) changing facilities for each gender; and
- d) sheltered eating areas.

4.5.7.2 A contractor shall provide reasonable and suitable living accommodation for the workers at construction sites which are remote from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

4.6 Design of temporary work

The contractor shall:

- a) provide the health and safety agent with the names and contract particulars of the designers involved in the design of temporary works;
- b) issue the designers with a copy of the health and safety specification as well as any pertinent information contained in the contract; and.
- c) provide the health and safety agent with certificates issued by the designer of the temporary works that such works are fit for purpose before such works are used in support construction activities.

PART F: SMALL CONTRACTOR DEVELOPMENT, TRAINING AND COMMUNITY LIAISON

D1001 SCOPE

This section covers construction aspects relating to the processes by which the construction industry develops emerging and established small contractors, preferably from the Target Area. It also deals with labour enhanced construction by encouraging the engagement and training of labour recruited from local communities.

D1002 DEFINITIONS AND APPLICABLE LEGISLATION

(a) Definitions

Unless inconsistent with the context, in these specifications, the following terms, words or expressions shall have the meanings hereby assigned to them:

Contract Participation

Contract Participation is a process by which the Employer implements Government's objectives by setting targets relating to small contractor development and labour enhancement which the Contractor shall achieve as a minimum.

Labour

Labour is the Contractor's and Subcontractor's personnel whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's and Subcontractor's employment policies.

Target Area

Target Area is a defined area from which the Contractor is expected to recruit Targeted Labour. The Target Area for this contract is as indicated in the Appendix to Tender.

Targeted Enterprise

An enterprise which:

- is a contractor registered with the Construction Industry Development Board in a contractor grading designation from 2 to 7 and status as potentially emerging; and
- the Contractor has no equity holding in; and
- is a sub-contractor who undertakes work within its registered CIDB category; and
- is registered in terms of the Company's Act, 2008 (Act No. 71 of 2008) or Close Corporation Act, 1984 (Act No. 69 of 1984); and
- is registered with the South African Revenue Service.

Target Groups

A Target Group is a specific section of the population who are South African citizens or have the legal right to work in South Africa and who are distinguished by gender, age or disability.

Targeted Labour

Targeted Labour is Labour recruited from the Target Area, who permanently reside in the Target Area or who are recognized as being residents of the Target Area on the basis of identification and association with and recognition by the residents of the Target Area.

(b) Applicable Legislation

The following Acts, as amended from time to time, are predominant amongst those which apply to the construction industry and are listed here for reference purposes only:

The Constitution of South Africa;

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Public Finance Management Act No. 1 of 1999;
Preferential Procurement Policy Framework Act No. 5 of 2000;
Construction Industry Development Board Act No. 38 of 2000;
Broad-Based Black Economic Empowerment Act No. 53 of 2003.

D1003 COMMUNITY liaison

"The purpose of community liaison is to create awareness between the Contractor and communities through which the contract passes. There is no need on this contract to create a project liaison committee (PLC), although it may be advisable that a community relations officer (CRO) is appointed from the Contractor's ranks, for the specific purpose of acting as liaison between management and hired labour."

(a) Purpose

In order to give effect to the need for transparency in the process of delivering services, the contractor should liaise with the community throughout the life cycle of the contract. This may be achieved through structured engagement between those responsible for the delivery of the contract and the communities adjacent to the contract.

(b) Structure and composition

A public liaison committee (PLC) or Public steering committee (PSC) may be established as a communication structure that interacts with all parties involved with the contract. The composition of the PLC comprises representation by the Employer, the Contractor, the engineer and formal structures within the communities. The Contractor is advised to make use of established community communication channels and appoint from among his site personnel a responsible person, (community relations officer (CRO)), to participate in the PLC business. Should the locality and size of the contract warrant the need for a project liaison officer (PLO) such appointment will be made by the engineer as part of the engineer's staff.

(c) Use of the PLC or PSC

The Contractor is encouraged to utilise the community liaison process in order to facilitate harmonious relationships on the contract. Some of the suggested elements of construction activity that should be discussed by the PLC are,

- Targeted Enterprises with whom the Contractor is already contractually committed prior to the commencement of the contract,
- Assist the contractor with the recruitment of Targeted Labour,
- Assistance with general community/project liaison,
- The need for training.

(d) Use of the PLO

The purpose of the PLO is to facilitate liaison between the community, community structures, local authorities, the contractor and the engineer. The engineer and contractor shall, at the start of the contract, agree on the duties of the PLO which may include the following:

communicating the labour requirements with regards to numbers and skills to the community;
determining, in consultation with the contractor, the needs of the labour for training;
identifying possible labour disputes and to assist in their resolution;
informing labour of their conditions of temporary employment and to inform labourers as soon as possible when their period of employment will be terminated;
attending disciplinary proceedings to ensure that hearings are fair and reasonable;
attending meetings in which the community and/or labour is present or is required to be represented;

In terms of the Conditions of Contract, all labour recruitment, employment and associated risks shall remain the sole responsibility of the contractor.

D1004 TRAINING

(a) Purpose of training

The Employer has no service agreement or memorandum of understanding with any education and training quality assurance body and, therefore, does not function as the employer as defined under

PART C3: SCOPE OF WORKS

BID NO: DHS-223-24-MP

any three-party-agreement between the learner, the training provider and the employer. But the Employer desires similar outcomes to such agreements; specifically to train Targeted Enterprises and Targeted Labour and equip them with residual skills that can be used to gain meaningful future employment and qualifications that permit continued access to further learning and qualifications within a defined programme.

The Employer will facilitate training and in this capacity demands continuous involvement in the necessary decision making and quality control process of the anticipated training within a skills program which identifies multiple but connected and full learnerships.

The training shall be at both a theoretical and practical level and in accordance with the various laws and regulations contained in the South African Qualification Authority (SAQA) statutes.

Wherever in this section reference is made to the selection and training of learners, any person, employed by any national, provincial or local authority, being it full time or part time, is expressly excluded from being considered for this training.

The complete training programme shall be approved by the engineer before training can commence.

(b) Skills analysis

Before any training programmes can be approved the contractor shall complete a skills audit of his own employees and those of his subcontractors to determine existing qualifications and education received. The outcome of the analysis shall be used to create a training programme that will benefit both the employee and the construction industry at large.

A separate skills analysis shall be conducted for the Targeted Enterprises with the specific purpose of identifying programmes that will develop and improve the ability of the owners of those enterprises to better manage their companies.

The skills analyses and subsequent training programmes must be provided by a suitably qualified training practitioner (the training manager) whose services the contractor shall procure.

(c) The training provider

The training manager shall be the training provider in terms of his obligations and commitment to undertake the training required. In the event that the training manager does not himself have the requisite training qualifications he may include as part of his management team a person who does. Such person may be an institution/organisation, company, collaborative partnership or consultancy in which case, whoever is approved from that entity shall be dedicated to provide all training once the programme has been approved by the engineer.

The training provider must be accredited and have in its employ Practitioners and/or Assessors registered with the Construction Education Training Authority (CETA) and who must have the necessary certified proof. Accreditation and registration proof shall be current, valid and list the NQF levels and unit standards for which he/she is accredited.

The training and competency levels required of the training provider are given in the table below:

TABLE D1005/1: QUALIFICATIONS FOR TRAINING PERSONNEL

Designation	Title & Unit Standard No	NQF Level	Credit
Practitioner	Train the trainer; No 7384	4	16
Assessor	Conduct outcome base assessment; No 115753	5	15
Moderator	Conduct moderation of outcome based assessment; No 115759	6	10

In addition to the above qualifications, and in keeping with current CETA practical experience requirements for registration as a trainer, NQF level 4 training courses shall only be provided by a practitioner/assessor with NQF Level 5 (one level up) credentials. For this project the Employer requires the further qualification that assessors/moderators means persons who have been employed

PART C3: SCOPE OF WORKS

BID NO: DHS-223-24-MP

for at least 5 years as a site agent managing construction processes in the specific fields of roads maintenance, roads new construction, roads rehabilitation, structures, etc.

It may be appropriate and effective to have different calibre/experienced personnel for each of the fundamental, core and elective training and assessment elements. In other words because the elective unit standards are more vocationally orientated and require specialist input, it is not expected that a single trainer/assessor will have all the necessary skills. In such cases, the training provider shall acquire an appropriate Practitioner/Assessor to perform elective training duties. Such appointments shall be approved by the Employer.

(d) Training

(i) Skills programme

Recognised Prior Learning of each employee shall be investigated, and taken into account and incorporated into each skills programme along with the additional competencies identified as being capable of providing a full learnership outcome.

It is recognised that the programme may consist of several unit standards but totalling insufficient credits for a full learnership qualification. Nevertheless, the competencies and credits achieved in a skills program should contribute to a full learnership by a later acquisition of the outstanding Unit Standards required for the full learnership.

The skills programme must also be geared in such a way that a selected number of applicable and urgently required unit standards will equip a learner with the minimum skills to become economically involved in the execution of the works as soon as possible.

Studying for any learnership requires minimum literacy and numeracy competencies as defined by SAQA. The actual literacy and numeracy levels inform the training provider on how to conduct the selection process. Learners with grade 12 literacy, numeracy and computer skills will, in most cases, comply with the minimum learning necessities. However, a baseline assessment (for example by conducting mini RPL enquiries and tests) may be required to ensure that the competency levels still exist. Some fill-in skills programme of fundamental unit standards may be needed.

Learners identified as having already acquired some tertiary training, particularly in the field of civil engineering, may be better suited to a more specialised learner programme. In other words the skills programme must reflect a degree of flexibility to cater for the different levels of competencies the selected learners will have and a single programme suitable for all learners should not be considered.

All training shall take place within normal working hours, or as agreed with the trainees.

(ii) Targeted learnerships

The essential SAQA learnership criteria that must be applied by the training provider are given below for the sake of providing sufficient detail for the contractor to understand the Employer's requirements:

- minimum credits for qualification;
- fundamental unit standards and credit values;
- core unit standards and credit values;
- elective units standards and credit values;
- assumption that NQF level 3 language, computer and mathematical competencies exist;
- RPL processes;
- exit level outcomes;

Notwithstanding the appearance of the above criteria in the contract document, they are not exhaustive and the training provider must apply the systems and processes provided by the relevant SAQA and other related legislation pertinent to training. The training provider shall constantly consult the SAQA website (www.saqa.org.za) page to ensure that the most current unit standard is used. In the event of any conflict, the legislated requirements shall apply.

PART C3: SCOPE OF WORKS

BID NO: DHS-223-24-MP

Before qualifying, the learners will be expected to demonstrate competence in a practical situation that integrates the assessment of all specific outcomes, for all unit standards in the learnership programme.

When considering learnerships and skills programmes the training provider shall distinguish between levels of learning required. NQF level 5 training is not anticipated but may be applicable for some members of existing small contractors' staff. The main training focuses on NQF levels 4 and 3. The former level is for the qualification title National Certificate: Supervision of Construction Processes, and is the prerequisite qualification for NQF level 5, National Diploma: Management of Civil Engineering Construction Processes. The NQF level 3 qualification title is National Certificate: Construction Roadworks.

It may be necessary to include additional core unit standards (e.g. "tendering" as an additional unit standard for NQF level 4) in order to achieve project development objectives and identification of any additional unit standards shall be discussed with the engineer and cannot be implemented without prior approval.

(iii) Learning material

Learning material is required for each unit standard. This learning material is like prescribed books for other qualifications. It is a requirement for all the learners to receive a copy, to learn the contents, and also to serve as a reference source after qualification.

The SAQA unit standards define the content of the learning material. The learning material must not only comply with the SAQA and CETA guidelines but must, and most importantly, be technically and practically aligned to road construction or road maintenance. Any input from a subject matter expert required to ensure the appropriateness of a particular unit standard subject is to be included in the training provider's costs.

The requirements to be addressed in learning material as outlined by the SAQA unit standard are, amongst others, the following:

- The purpose of the unit standard;
- Each of the specific outcomes (normally 4 per unit standard);
- Each of the assessment criteria (normally 4 per specific outcome);
- The range as is defined for each specific outcome;
- The critical cross-field outcomes for the unit standard;
- The unit standard essential embedded knowledge.

(iv) Student experiential training

The Employer may provide students to the contractor to provide experiential training. The contractor is required to provide experiential training to the university or university of technology undergraduate students in accordance with the academic institution requirements.

The contractor shall also provide the students with all the tools (including appropriate information technology hardware and software) and space necessary to carry out engineering work as if they were the contractor's own permanent staff

Reporting on training progress of each student shall be compiled according to the formats and intervals set by the relevant academic institution.

(e) Training facilities

The Contractor shall be responsible for the provision of everything necessary for the delivery of the various training workshops and modules including:

A suitable venue with sufficient furniture, lighting and power

All necessary stationery consumables and study material

Transport for attendants

Before commencing with any structured training the Contractor shall submit his intended programme to the engineer for approval of its subject content and proposed trainers, and the Contractor shall, if so instructed by the engineer, alter or amend the programme and/or course content.

(f) Generic skills training

Generic skills shall be taught where the need for these has been identified as being necessary.

In this regard the contractor shall make representation to the engineer, who shall approve candidates that should attend such courses as thought appropriate. Those selected shall receive formal generic skills training in a programmed and progressive manner. The PLC and/or the engineer may also identify a need for generic skills training.

Typical training programmes could comprise some or all of the following modules:

- Basic hygiene and HIV/AIDS awareness
- Road safety
- Basic management of the environment
- Tourism awareness and opportunities
- Managing personal finance

(g) Keeping of records

The training provider shall keep comprehensive records of the training given to each trainee and ensure that trainees' successful completion of successive unit standards are entered onto the national database. With successful completion of generic skills courses each trainee shall be issued with a certificate indicating the course contents as proof of attendance and completion. The contractor shall keep a register of certificates issued in this regard. Whenever required, the contractor shall provide copies of such records to the engineer.

D1005 LABOUR ENHANCED CONSTRUCTION

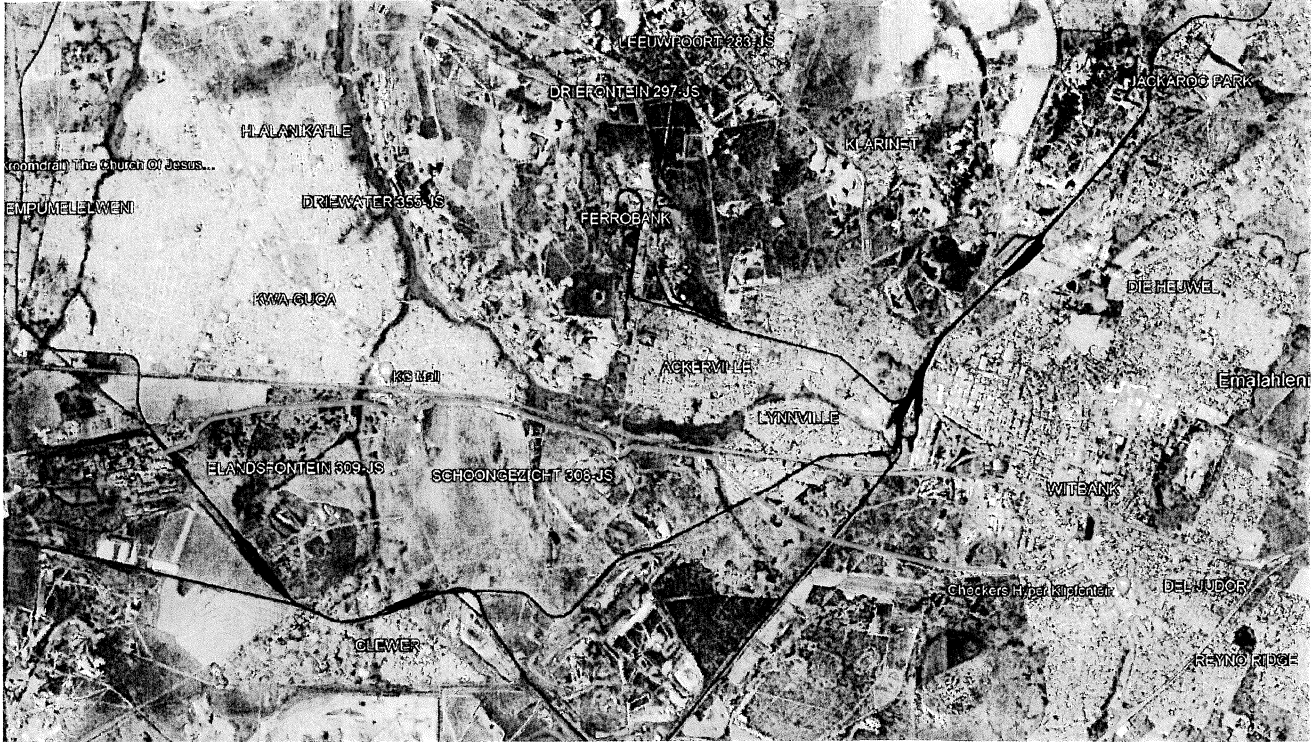
The Contractor's attention is drawn to the fact that it is an objective of the contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former should generally be kept to the practical minimum.

Before commencing with any labour enhanced operations the Contractor shall discuss his intentions with the engineer, and shall submit to the engineer on a monthly basis, daily labour returns indicating the numbers of temporary personnel employed on the works and the activities on which they were engaged.

PART C4 : SITE INFORMATION

C4.1 : PROJECT LOCALITY

Empumelelweni is located within the jurisdictional boundaries of Emalahleni Local municipality and Nkangala District Municipality of Mpumalanga Province. The geographical position of the site is S25°50'58" (Latitude) and E29°05'10" (Longitude), which is approximately 12 kilometres West of Emalahleni.



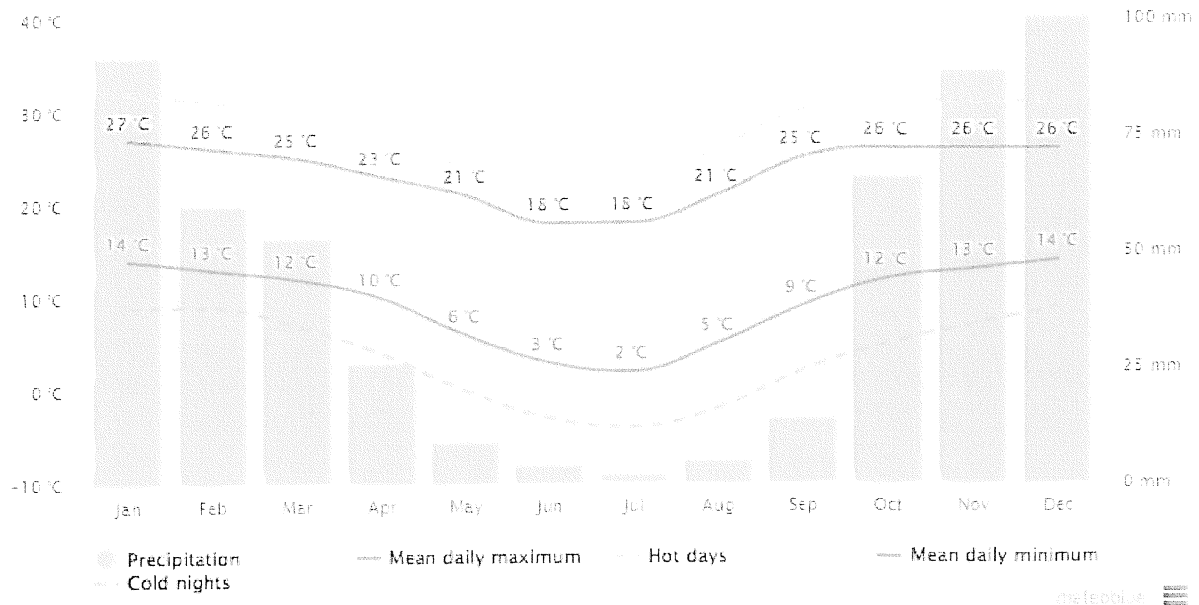
C4.2 : CONSTRUCTION NOTICE BOARD

Details of the Construction Notice Board including fabrication requirements can be found in the book of drawings. Instructions on the erection of the notice board will be done with commencement of the contract and issued by the Engineer on site.

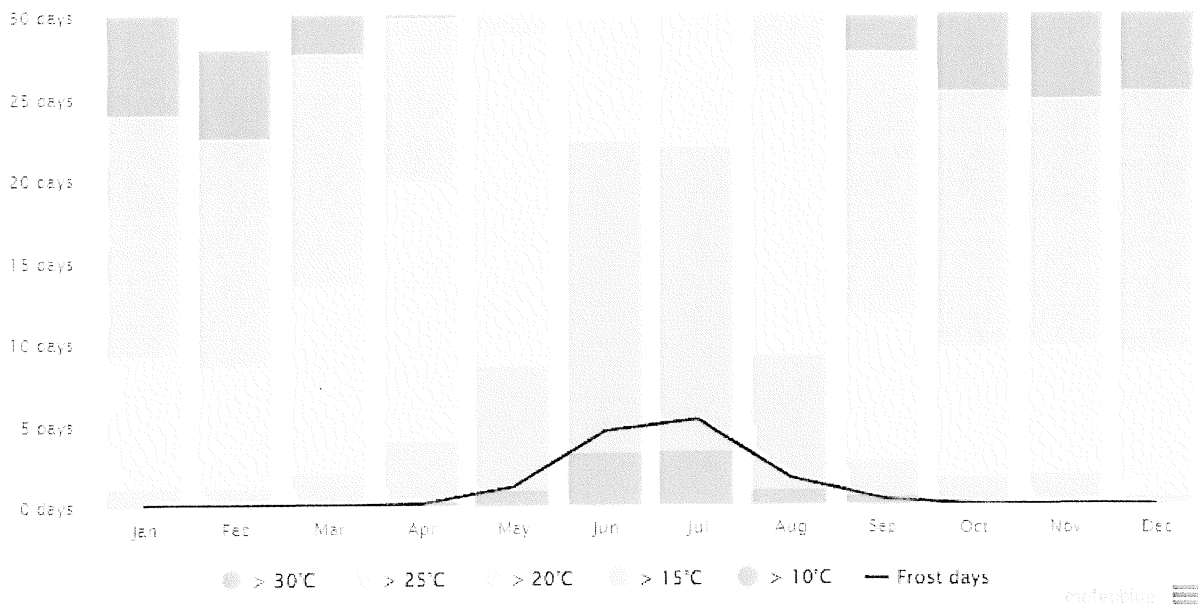
C4.3 : HISTORICAL WEATHER DATA

The information below are given in good faith and the engineer shall not be held accountable for the accuracy thereof. The tenderer shall assess the information and incorporate the potential risk to delays in the construction period in his programme of works and as stipulated in PART C3: SCOPE OF WORKS Section B12.15.

Average temperatures and precipitation



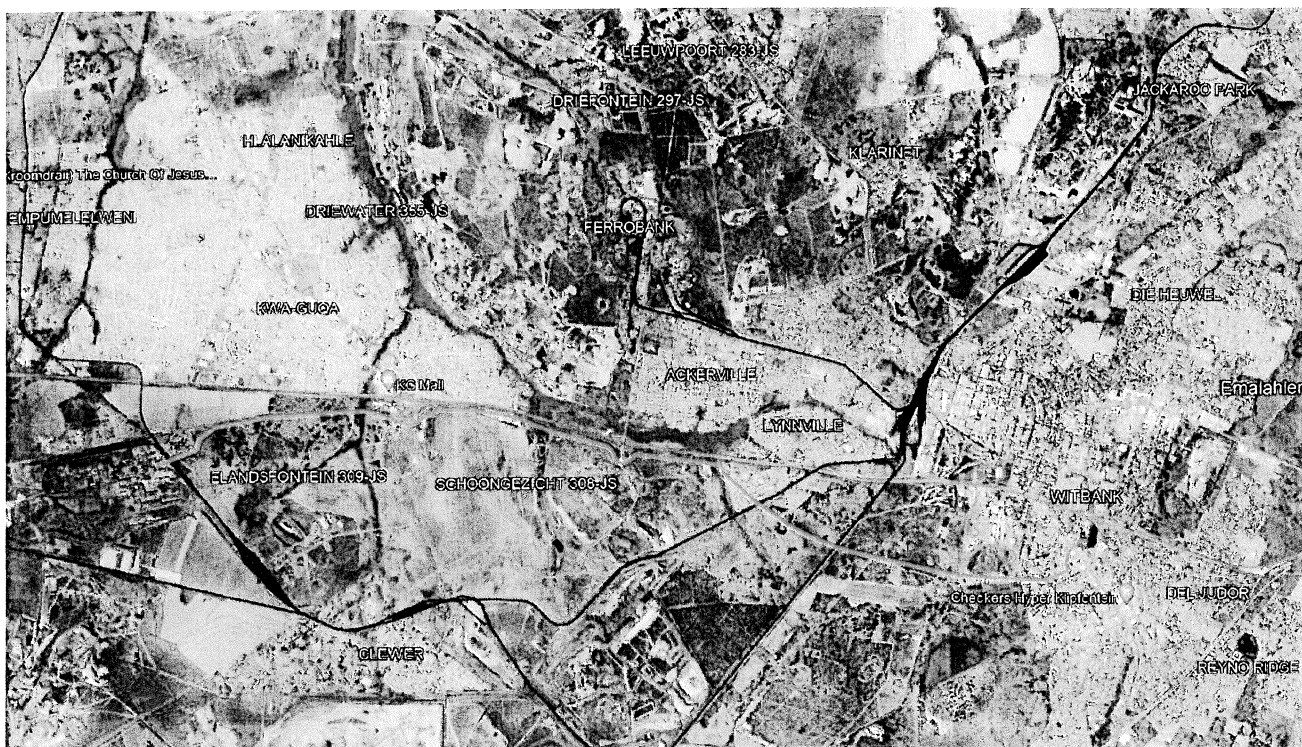
Maximum temperatures



PART C4 : SITE INFORMATION

C4.1 : PROJECT LOCALITY

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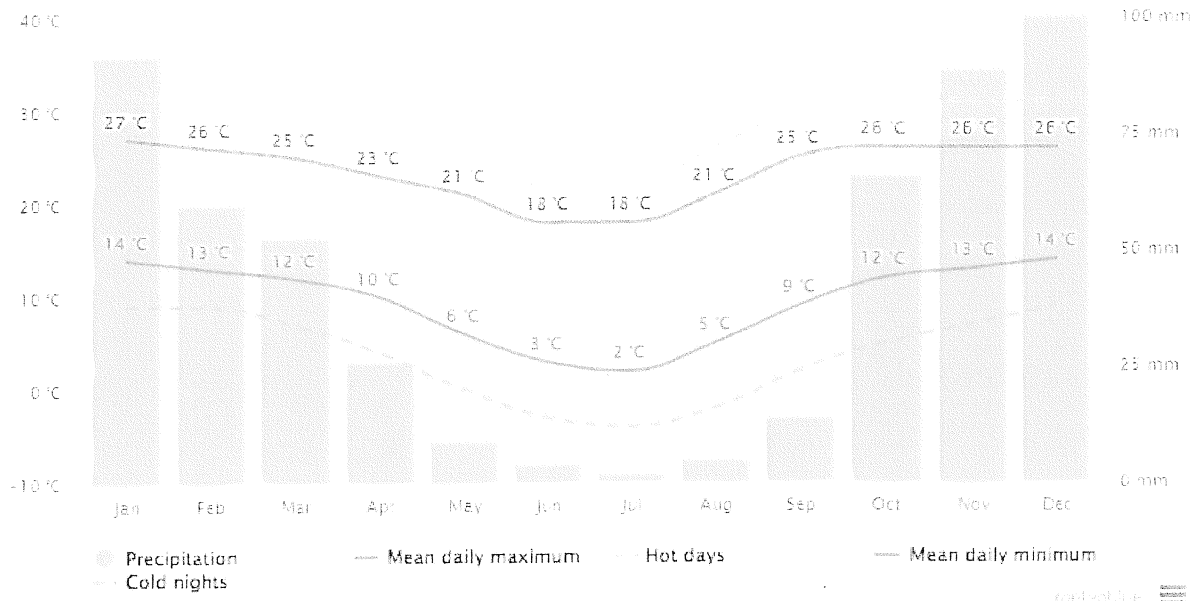
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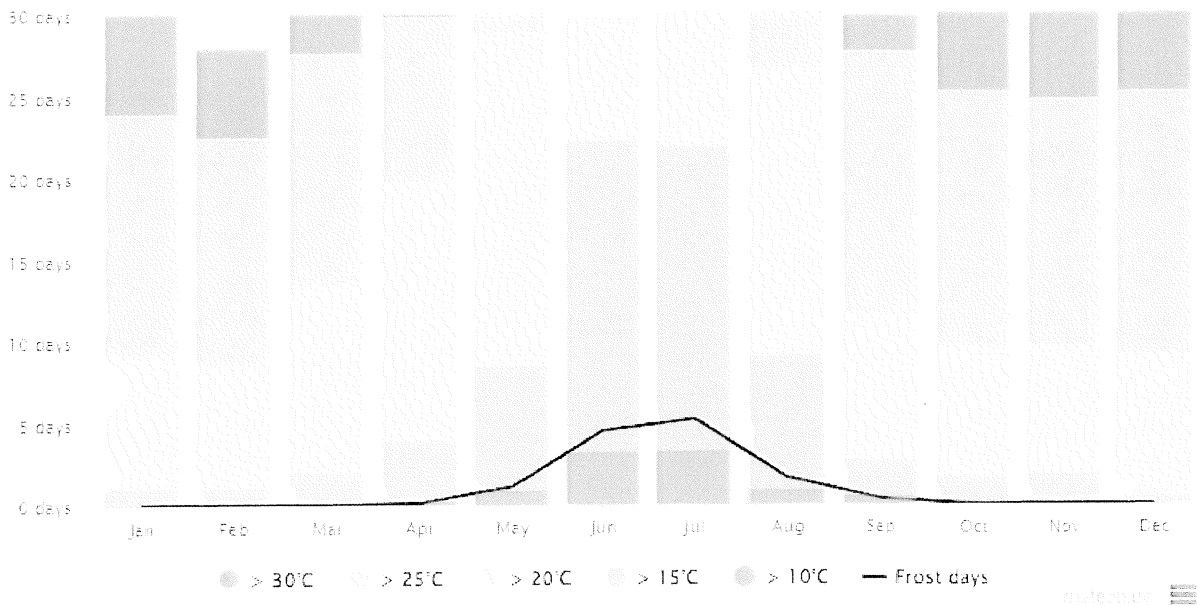
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Average temperatures and precipitation



Maximum temperatures



PART C5: ANNEXURES

BID NUMBER: DHS-223-24-MP

PART C5 : ANNEXURES

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BID NUMBER: DHS-223-24 MP

The Tenderer shall satisfy him/herself that the set of drawings is complete in accordance with the above schedule, and if any are found missing or duplicated, or the writing or figures indistinct, he/she shall apply to the Engineer immediately and have the discrepancy rectified.

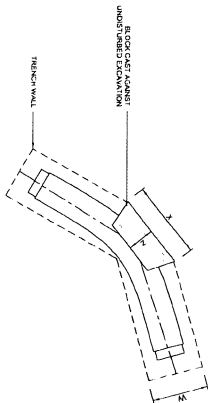
The tenderer's attention is brought to clause 2.4 in the Contract Specific Data pertaining to the ambiguity or discrepancy between the documents.

No liability whatsoever will be admitted by the Employer in respect of errors in tenders attributed to any such discrepancy.

PART C5: ANNEXURES

BID NUMBER: DHS-223-24 MP

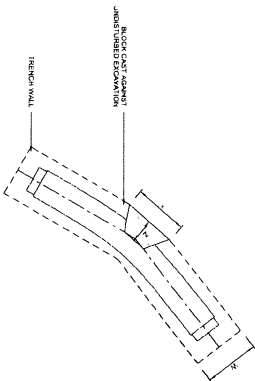
C5.2: CONTRACT DRAWINGS



THRUST BLOCK FOR 45° BEND
SCALE 1:10

NOMINAL DIAMETER Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa	1350 kPa	1800 kPa	2250 kPa	2700 kPa	3150 kPa
500	1700	1.17	1.23	1.65	1.79	2.20	2.62
400	1300	800	1.04	1.31	1.60	1.76	2.14
300	1000	600	0.78	1.03	1.29	1.45	1.74
250	850	500	0.64	0.86	1.08	1.24	1.49
200	700	400	0.51	0.68	0.84	0.98	1.19
150	550	300	0.38	0.50	0.62	0.72	0.88
100	400	200	0.25	0.33	0.41	0.48	0.59
75	300	150	0.19	0.25	0.31	0.37	0.45
50	200	100	0.13	0.17	0.21	0.25	0.31

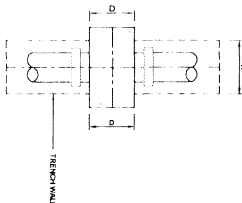
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THRUST BLOCK FOR 22.5° AND 11.25° BEND
SCALE 1:10

NOMINAL DIAMETER Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa	1350 kPa	1800 kPa	2250 kPa	2700 kPa	3150 kPa
500	1700	1.17	1.23	1.65	1.79	2.20	2.62
400	1300	800	1.04	1.31	1.60	1.76	2.14
300	1000	600	0.78	1.03	1.29	1.45	1.74
250	850	500	0.64	0.86	1.08	1.24	1.49
200	700	400	0.51	0.68	0.84	0.98	1.19
150	550	300	0.38	0.50	0.62	0.72	0.88
100	400	200	0.25	0.33	0.41	0.48	0.59
75	300	150	0.19	0.25	0.31	0.37	0.45
50	200	100	0.13	0.17	0.21	0.25	0.31

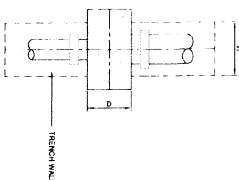
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THRUST BLOCK FOR GATE VALVE
SCALE 1:10

NOMINAL DIAMETER Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa	1350 kPa	1800 kPa	2250 kPa	2700 kPa	3150 kPa
500	1700	1.17	1.23	1.65	1.79	2.20	2.62
400	1300	800	1.04	1.31	1.60	1.76	2.14
300	1000	600	0.78	1.03	1.29	1.45	1.74
250	850	500	0.64	0.86	1.08	1.24	1.49
200	700	400	0.51	0.68	0.84	0.98	1.19
150	550	300	0.38	0.50	0.62	0.72	0.88
100	400	200	0.25	0.33	0.41	0.48	0.59
75	300	150	0.19	0.25	0.31	0.37	0.45
50	200	100	0.13	0.17	0.21	0.25	0.31

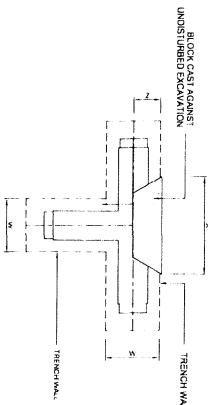
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THRUST BLOCK FOR REDUCER
SCALE 1:10

NOMINAL DIAMETER Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa	1350 kPa	1800 kPa	2250 kPa	2700 kPa	3150 kPa
500	1700	1.17	1.23	1.65	1.79	2.20	2.62
400	1300	800	1.04	1.31	1.60	1.76	2.14
300	1000	600	0.78	1.03	1.29	1.45	1.74
250	850	500	0.64	0.86	1.08	1.24	1.49
200	700	400	0.51	0.68	0.84	0.98	1.19
150	550	300	0.38	0.50	0.62	0.72	0.88
100	400	200	0.25	0.33	0.41	0.48	0.59
75	300	150	0.19	0.25	0.31	0.37	0.45
50	200	100	0.13	0.17	0.21	0.25	0.31

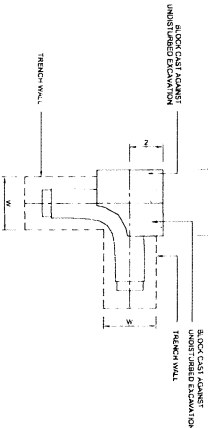
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THRUST BLOCK FOR TEE
SCALE 1:10

NOMINAL DIAMETER Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa	1350 kPa	1800 kPa	2250 kPa	2700 kPa	3150 kPa
500	1700	1.17	1.23	1.65	1.79	2.20	2.62
400	1300	800	1.04	1.31	1.60	1.76	2.14
300	1000	600	0.78	1.03	1.29	1.45	1.74
250	850	500	0.64	0.86	1.08	1.24	1.49
200	700	400	0.51	0.68	0.84	0.98	1.19
150	550	300	0.38	0.50	0.62	0.72	0.88
100	400	200	0.25	0.33	0.41	0.48	0.59
75	300	150	0.19	0.25	0.31	0.37	0.45
50	200	100	0.13	0.17	0.21	0.25	0.31

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THRUST BLOCK FOR 90° BEND
SCALE 1:10

NOMINAL DIAMETER Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa	1350 kPa	1800 kPa	2250 kPa	2700 kPa	3150 kPa
500	1700	1.17	1.23	1.65	1.79	2.20	2.62
400	1300	800	1.04	1.31	1.60	1.76	2.14
300	1000	600	0.78	1.03	1.29	1.45	1.74
250	850	500	0.64	0.86	1.08	1.24	1.49
200	700	400	0.51	0.68	0.84	0.98	1.19
150	550	300	0.38	0.50	0.62	0.72	0.88
100	400	200	0.25	0.33	0.41	0.48	0.59
75	300	150	0.19	0.25	0.31	0.37	0.45
50	200	100	0.13	0.17	0.21	0.25	0.31

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ISSUED FOR CONSTRUCTION

HUMAN SETTLEMENTS

PRIPALANCA

DESIGN OF BULWATER INFRASTRUCTURE

SETTLEMENTS UNDER MALAYSIAN LOCAL AUTHORITY

THRUSTBLOCK DETAIL

DESIGNED BY: J. BOTA

CHECKED BY: J. BOTA

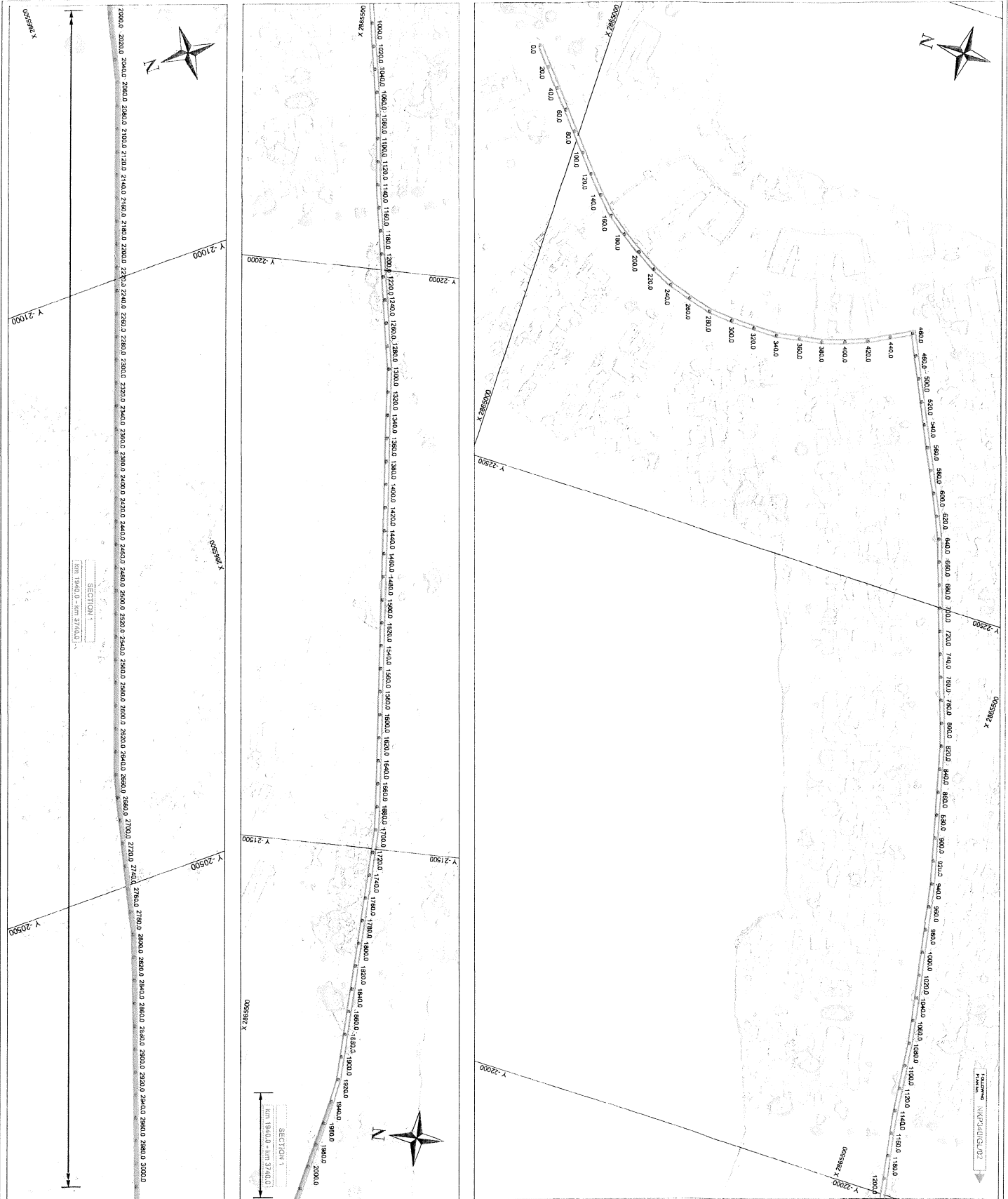
DATE: AUGUST 2023

AS SHOWN

DRAWN BY: R. BUNGER

REVISION

CONTACT NO: *****



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LEGEND:
CENTRELINE
ROADSIDE
ROADKERS
FENCE
STORMWATER DRAINAGE PIPE
STORMWATER JUNCTION BOX
STORMWATER KERB INLET
BENCHMARKS
EXISTING GRAVEL ROAD
ELECTRICAL LINE
WATERLINE/VALVE

CLIENT
HUMAN SETTLEMENTS
MPOJALANSA
PROJECT NO. H/1324
DATE: 07/11/2024
SCALE: 1:1000
DRAWN: 13/01/2024
CHECKED: 13/01/2024
DESIGNED: 13/01/2024
DRAWN: 13/01/2024
CHECKED: 13/01/2024
DESIGNED: 13/01/2024

PROJECT TITLE
DESIGN OF BULK WATER INFRASTRUCTURE FOR
EMUPUEIWEIWEI CLUSTER OF SETTLEMENTS
UNDER EMALALENI LOCAL MUNICIPALITY

DRAWING TITLE
GENERAL LAYOUT PLAN

SCALE: 1:1000
DATE: AUGUST 2023
DRAWING NO: 0101
CONTRACT NO: DHE/192/19/MP

DESIGNED: ID BOTHA
CHECKED: SON
DRAWN: 13/01/2024
SCALE: 1:1000
DATE: AUGUST 2023
DRAWING NO: 0101
CONTRACT NO: DHE/192/19/MP

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- ROADEDGE
- ROADBENCH
- FENCE
- STORMWATER OVERFLOW PIPE
- STORMWATER JUNCTION BOX
- STORMWATER KERB INLET
- BENCHMARKS
- EXISTING GRAVEL ROAD
- ELECTRICAL LINE
- WATER LINE/VALVE

CLIENT

HUMAN SETTLEMENTS
MUPUMALANGA
PRIVATE ROAD 1120
MURDERERS
1200
TEL: 011 711 441 000
FAX: 011 711 441 000

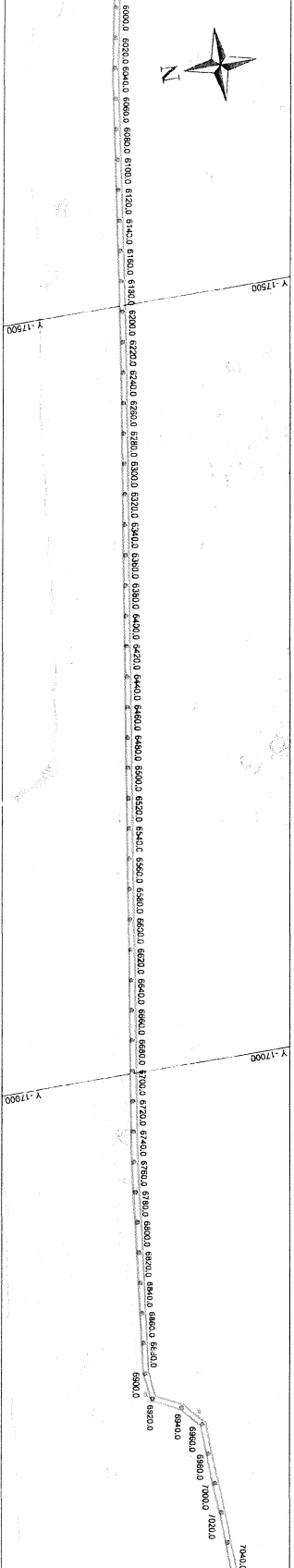
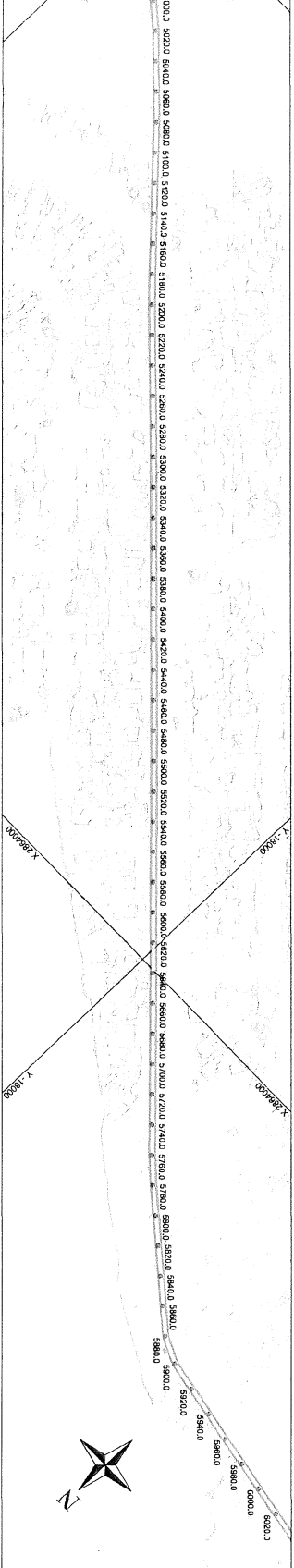
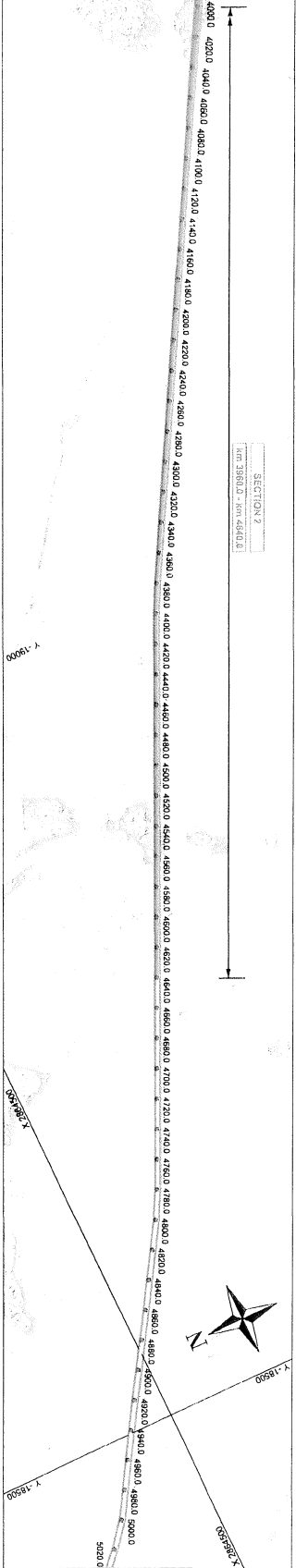
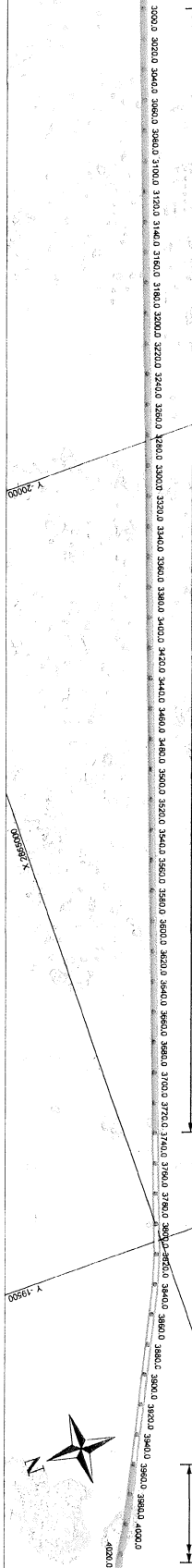
PROJECT TITLE
DESIGN OF FLOOD WATER INFRASTRUCTURE FOR
EMPLOYEES' CLUSTER OF SETTLEMENTS
UNDER EMALILENI LOCAL MUNICIPALITY

DRAWING TITLE:
GENERAL LAYOUT PLAN

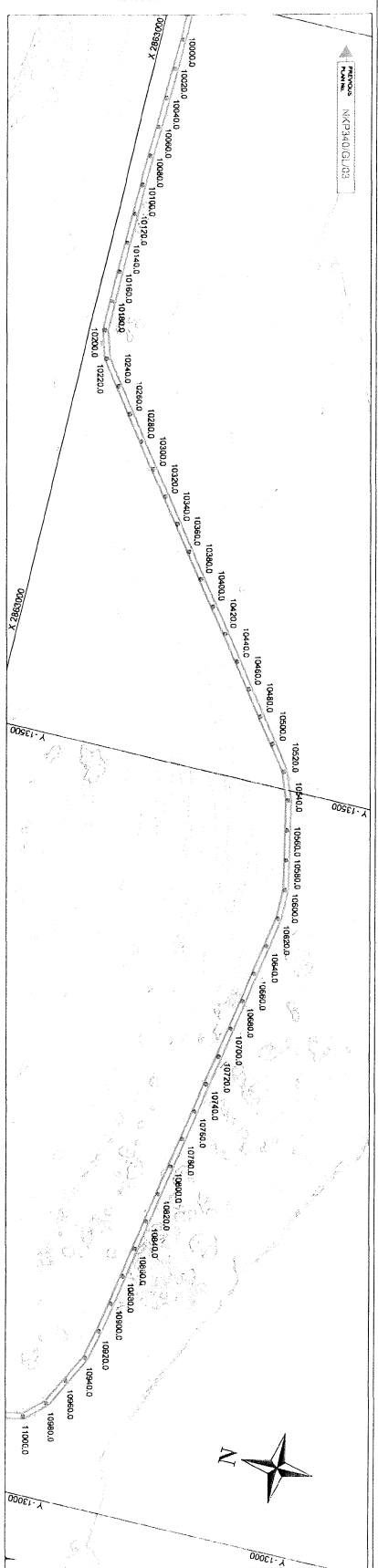
DESIGNED: J.D. BOTHA
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DATE: AUGUST 2023
DRAWING NO: G102
CONTRACT NO: DHS/192/15/MP

REF	DATE	REVISION



PROJECT NO: 2023/01/01



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- FENCE
- STORMWATER DRAINAGE PIPE
- STORMWATER JUNCTION BOX
- STORMWATER INLET
- BENCHMARK
- EXISTING GRAVEL ROAD
- ELECTRICAL LINE
- WATER LINE

CLIENT

HUMAN SETTLEMENTS
MPUMALANGA

PROJECT NO: 2023/01/01
DATE: 2023/01/01
DRAWN BY: [Name]
CHECKED BY: [Name]

PROJECT TITLE

**DESIGN OF RURAL WATER INFRASTRUCTURE FOR
EMPALEWENI CLUSTER OF SETTLEMENTS
UNDER EMALALENI LOCAL MUNICIPALITY**

HEAD OFFICE
43 NATION STREET
NLSURUIT
1200

TEL: 011 444 4444
FAX: 011 444 4444
E-MAIL: [Email]

DRAWING TITLE:

GENERAL LAYOUT PLAN

DESIGNED: [Name] CHECKED: [Name]
DRAWN: [Name] SIGN: [Name]

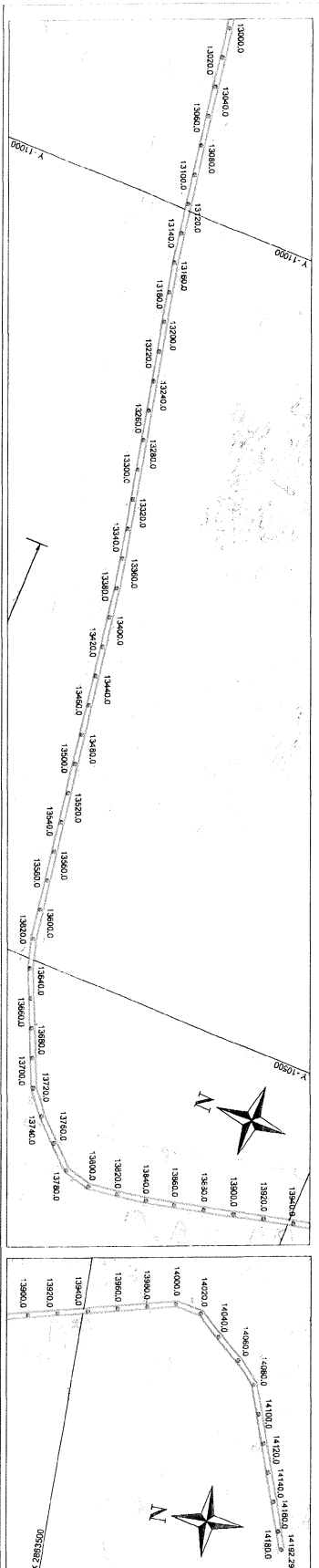
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DATE: AUGUST 2023

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CONTRACT NO: [Number]

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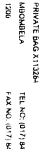


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-
- WATER LINE VALVE**

HUMAN SETTLEMENTS
MPUMALANGA

43 MARLOTH STREET
NELSPRUIT
1200

TEL NO.: (013) 753 3713
FAX NO.: (086) 539 7515
e-mail: fun@wagethevoice.com

4G TITLE

LONGITUDINAL SECTION PLAN

CHIEF

SIGN

SCALE: 1:1000

DATE: AUGUST 202

1501 DHS/192/19/M

REVIEW DATE	REVISOR
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LEGEND:

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- ROADSIDE
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- FENCE
- STORMWATER DRAINAGE PIPE
- STORMWATER JUNCTION BOX
- STORMWATER KERB LINE
- BENCHMARKS
- EXISTING GRAVEL ROAD
- ELECTRICAL LINE
- WATER LINE/VALVE

CLIENT

HUMAN SETTLEMENTS
MPUMALANGA
PRIVATE BAG 311328
WILHELMIA
1250
TEL: 051 971 643 800
FAX: 051 971 643 400

DESIGNER
41 MARGLOTH STREET
WILHELMIA
1250
TEL: 051 971 743 373
FAX: 051 971 743 315
WWW.HUMANSETTLEMENTS.CO.ZA

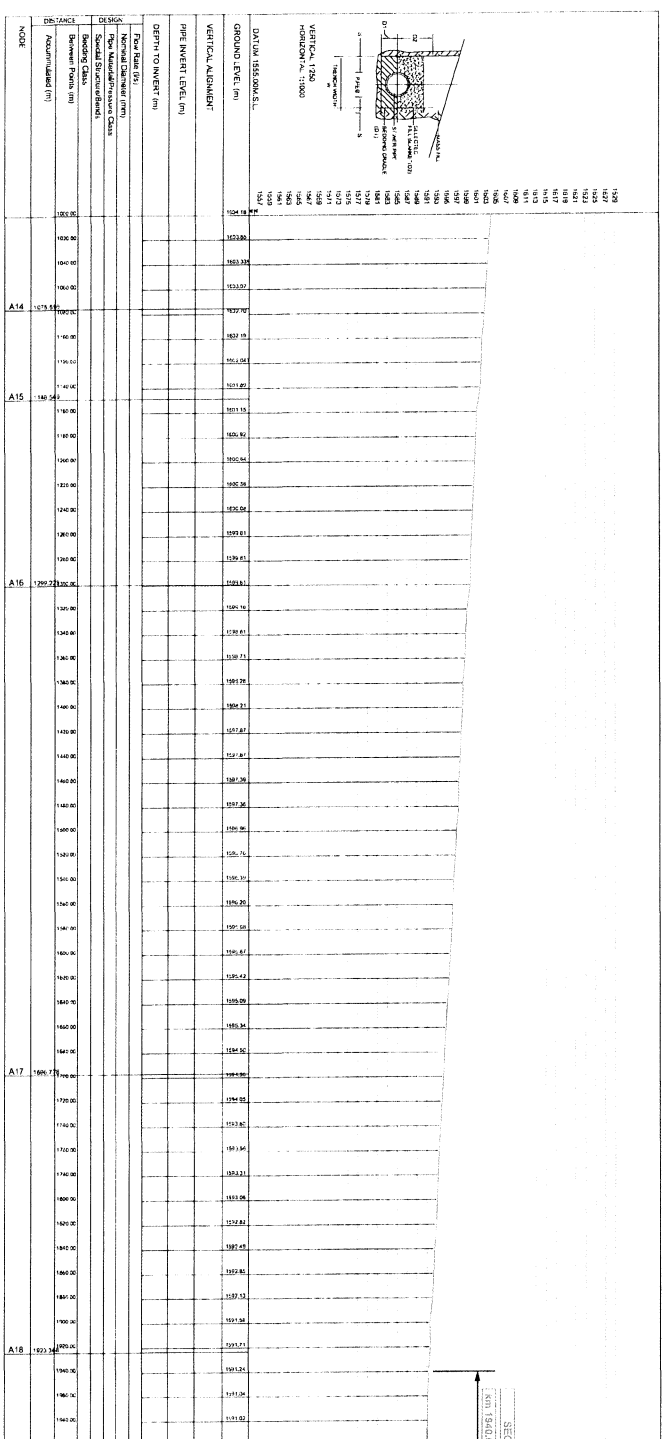
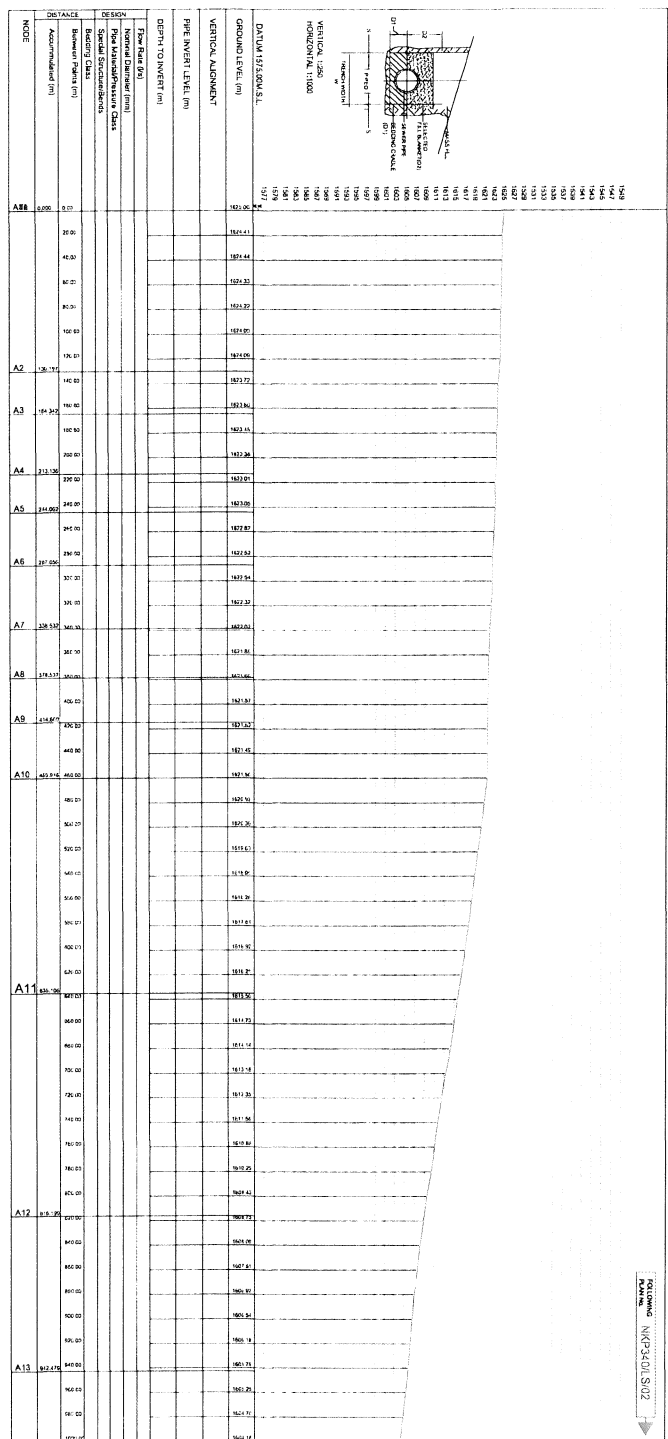
PROJECT TITLE
DESIGN OF BULK WATER INFRASTRUCTURE FOR
HUMAN SETTLEMENTS CLUSTER OF SETTLEMENTS
UNDER EMALALENI LOCAL MUNICIPALITY

DRAWING TITLE
LONGITUDINAL SECTION PLAN

DESIGNED
JD BOOTH
DRAWN
R BURGER
SCALE
1:1000
DATE
AUGUST 2023
DRAWING NO
CONTRACT NO
DHS/197/19/MP

DATE
REVISION

LEGEND
NAD 2011/2012



SECTION 2

SECTION 2

SECTION 2

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ROADSIDE
FENCE
STORMWATER DRAINAGE PIPE
STORMWATER JUNCTION BOX
STORMWATER INLET
BRICKWORKS
EXISTING GRAVEL ROAD
ELECTRICAL LINE
WATER LINE/VALVE

CLIENT
HUMAN SETTLEMENTS
MUMALANGA
PRIVATE BAG #1284
MUMALANGA
TEL: 06 3977 440
FAX: 06 3977 440
E-MAIL: hse@munim.gov.za

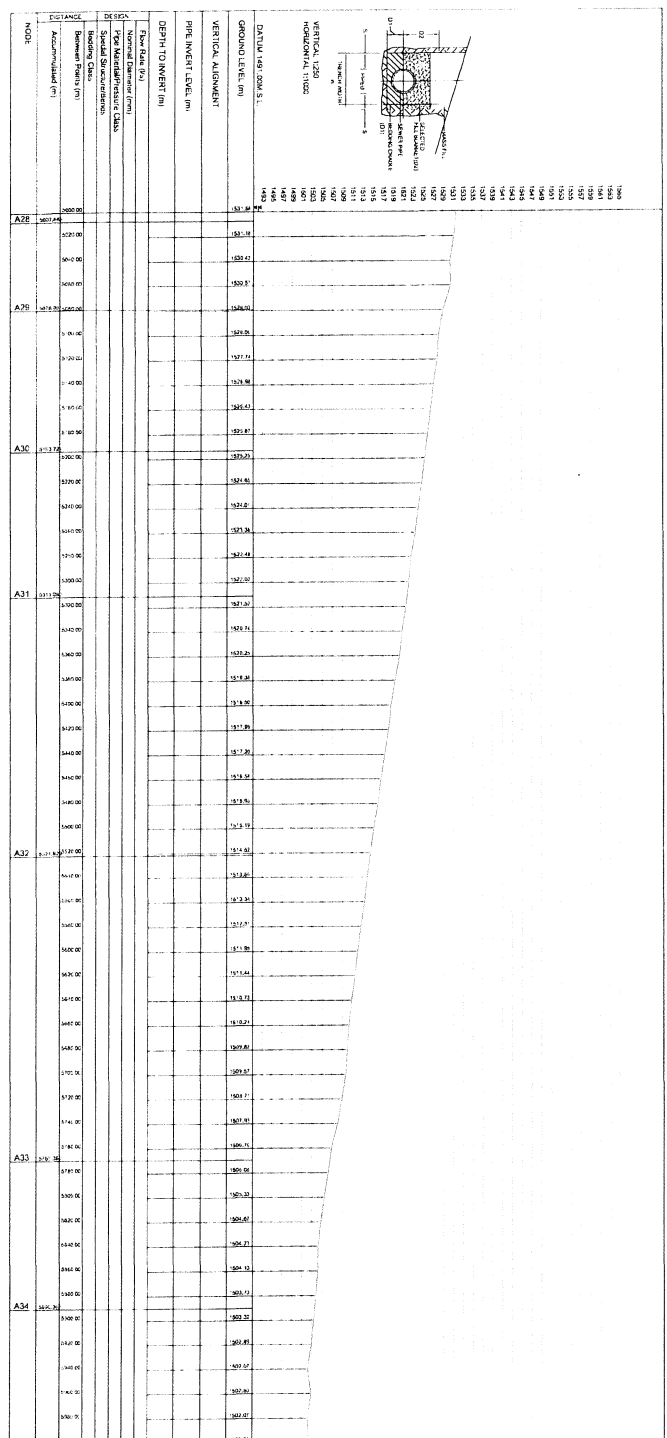
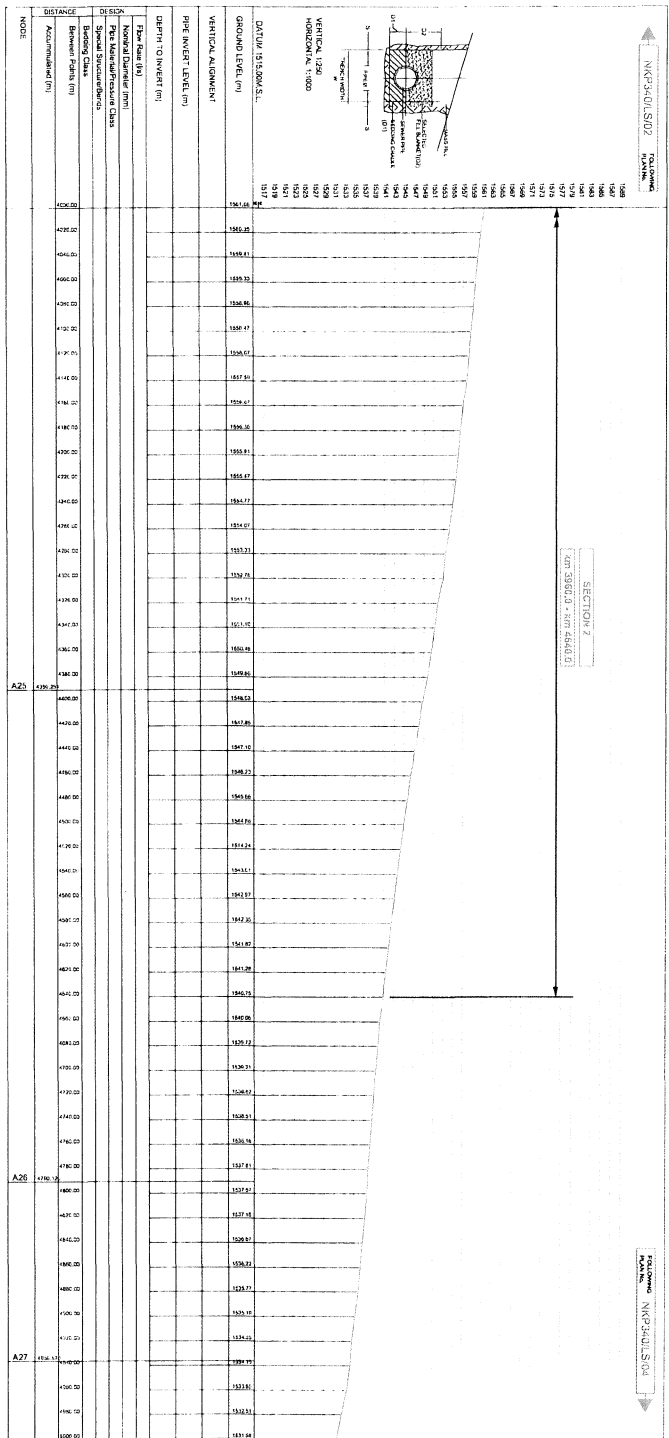
PROJECT TITLE
DESIGN OF RURAL WATER INFRASTRUCTURE FOR
HUMAN SETTLEMENTS
UNDER BHALALI LOCAL MUNICIPALITY

DESIGNED
BY: R. BURGER
CHECKED
BY: R. BURGER
SCALE
1:1000
DATE
AUGUST 2023
DRAWING NO.
1303
CONTRACT NO.
DMS 192/2019

DRAWING TITLE
LONGITUDINAL SECTION PLAN

DESIGNED
BY: R. BURGER
CHECKED
BY: R. BURGER
SCALE
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DATE
AUGUST 2023
DRAWING NO.
1303
CONTRACT NO.
DMS 192/2019

DATE
14/08/2023
REVISION



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-  CENTRALINE
 ROADCODE
 ROADKERB
 FENCE
 STORMWATER DRAINAGE PIPE
 STORMWATER JUNCTION BOX
 STORMWATER KERB INLET
 BENCHMARKS
 EXISTING GRAVEL ROAD
 ELECTRICAL LINE
 WATER LINE/VALVE

TEL NO: (017) 843 4000
FAX NO: (017) 843 4000

...
...
...

41 MANLOTH STREET
NELSPRUIT
1200

TEL NO: (013) 753 3713
FAX NO: (086) 539 7515
e-mail: info@wagaset.com.co.za

PROJECT TITLE:
DESIGN OF BULK WATER INFRASTRUCTURE FOR
EMPUMELELWENI CLUSTER OF SETTLEMENTS
UNDER EMALALENI LOCAL MUNICIPALITY

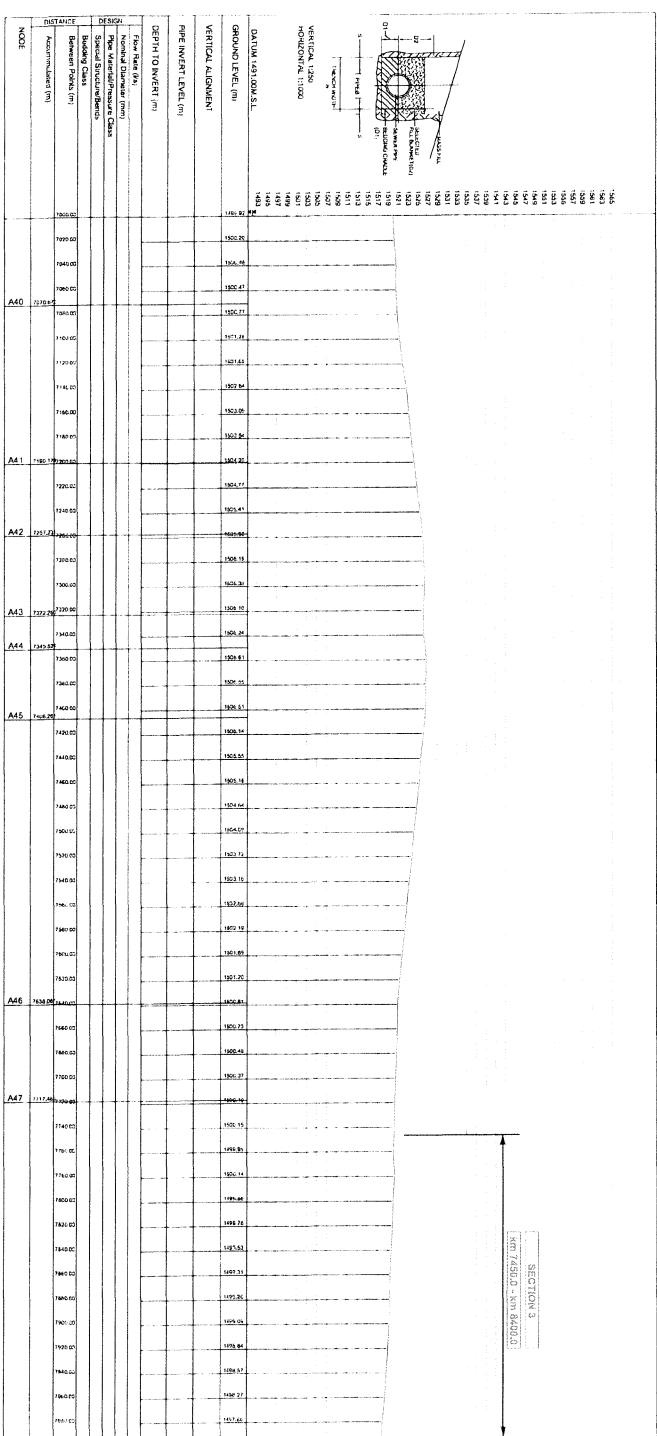
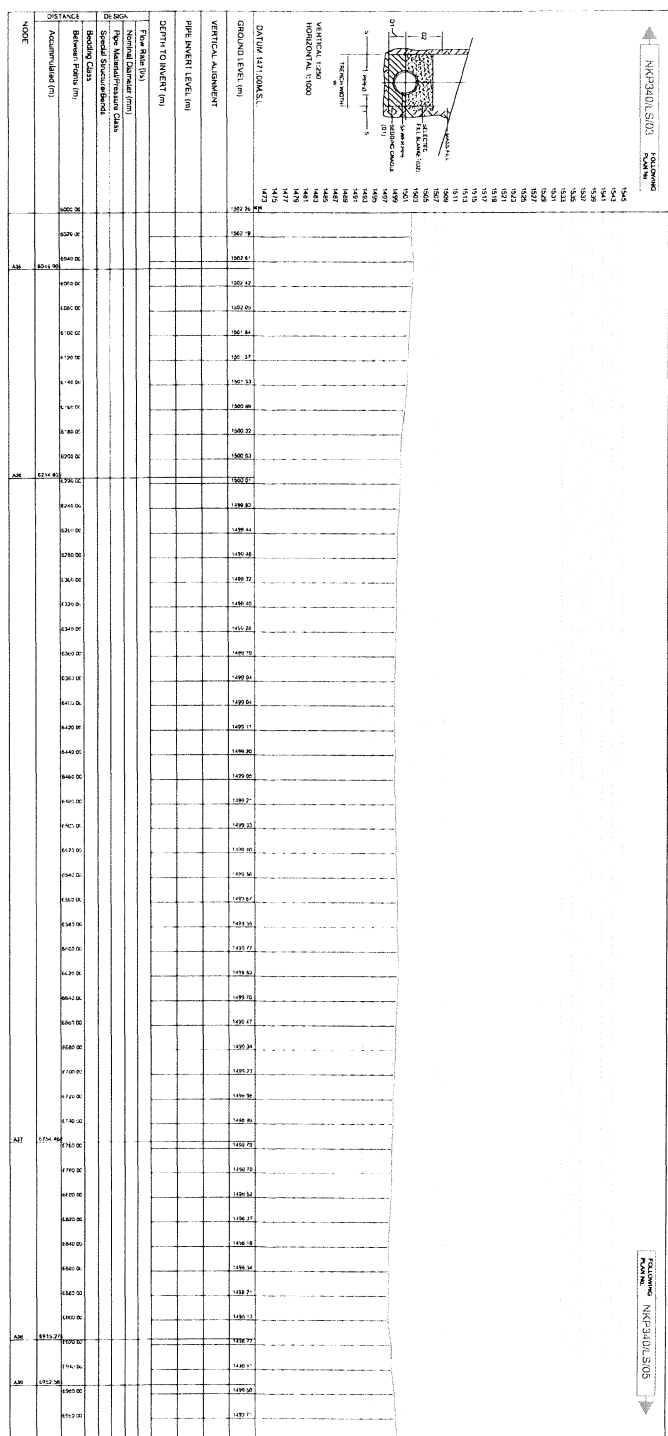
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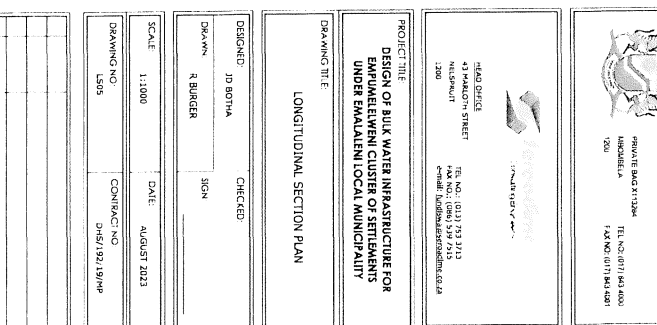
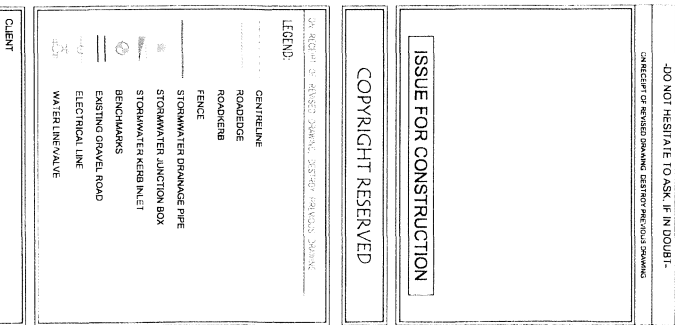
DESIGNED	JD BOTHA	CHECKED
DRAWN		SIGNED

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LS04 OHS/192/19/MP

REV. DATE	REVISION





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 ROADEDGE
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 FENCE
 STORMWATER DRAINAGE PIPES
 STORMWATER JUNCTION BOX
 STORMWATER KERB INLET
 BENCHMARKS
 EXISTING GRAVEL ROAD
 ELECTRICAL LINE
 WATER LINE/VALVE

CLIENT

HUMAN SETTLEMENTS
MPUMALANGA

PRIVATE BAG X113294
MIDDELBEL
1200 TEL NO: (071) 643 400
FAX NO: (071) 643 400

Abstract

HEAD OFFICE
43 MARLOT STREET
NELSPURUIT
1200

TEL NO.: (011) 753 3713
FAX NO.: (086) 539 7515
e-mail: funcism@cadtime.co.za

PROJECT TITLE:
**DESIGN OF BULK WATER INFRASTRUCTURE FOR
EMPUWELEWENI CLUSTER OF SETTLEMENTS
UNDER EMALALENI LOCAL MUNICIPALITY**

DRAWING TITLE

LONGITUDINAL SECTION PLAN

DESIGNED:
ID ROTH

DRAWN.

SIGN

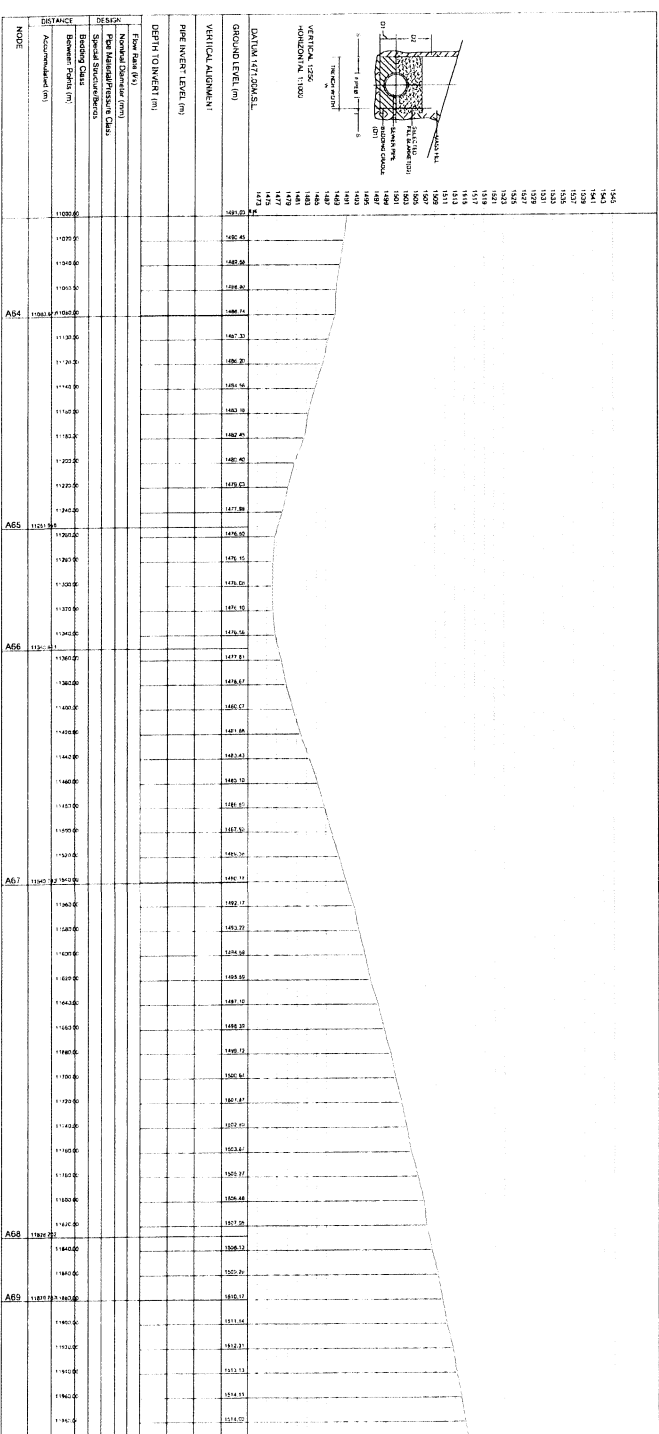
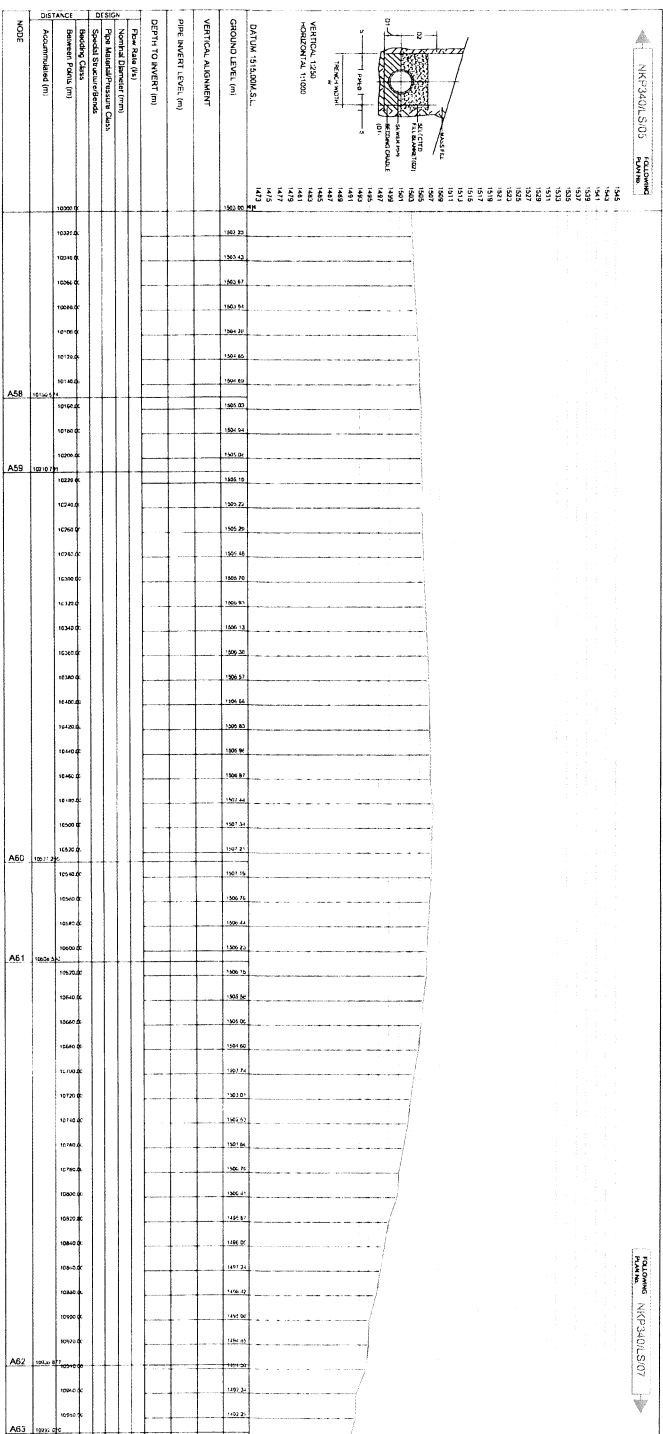
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DATE: AUGUST 2021.

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DHS/19Z/19/M

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LEGEND:

-  CENTURINE
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 ROADMARK
 FENCE
 STORMWATER DRAINAGE PIPE
 STORMWATER JUNCTION BOX
 STORMWATER KERB INLET
 BENCHMARKS
 EXISTING GRAVEL ROAD
 ELECTRICAL LINE
 WATER LINE/VALVE

CLIENT

HUMAN SETTLEMENTS
MPUMALANGA

PRIVATE BAG X113294
MIDDELBEL
1200 TEL NO: (071) 643 400
FAX NO: (071) 643 400

 1. The first part of the text is a small graphic of a stylized 'A' or 'B' shape.

HEAD OFFICE
43 MARLOT STREET
NELSPURUIT
1200

TEL NO.: (011) 753 3713
FAX NO.: (086) 539 7515
e-mail: funcism@cadtime.co.za

PROJECT TITLE:
**DESIGN OF BULK WATER INFRASTRUCTURE FOR
EMPUWELEWENI CLUSTER OF SETTLEMENTS
UNDER EMALALENI LOCAL MUNICIPALITY**

DRAWING TITLE

LONGITUDINAL SECTION PLAN

DESIGNED:
ID ROTH

DRAWN.

SIGN

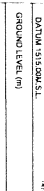
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DATE: AUGUST 2021.

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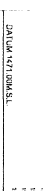
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REV.	DATE	REVISION
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LEGEND

CENTRALINE
ROADSIDE
ROADKING
STORMWATER DRAINAGE PIPE
FENCE
STORMWATER JUNCTION BOX
STORMWATER INLET
BENCHMARKS
EXISTING GRAVEL ROAD
ELECTRICAL LINE
WATER LINE/VAPE



DRAWING TITLE	
LONGITUDINAL SECTION PLAN	
DESIGNED BY JD BORTH	CHECKED BY
DRAWN BY A BURGER	SIGN.
SCALE 1:1080	DATE MAY/27/2023
DRAWING NO. LS07	CONTRACT NO. DMS/192/19/HIP

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BILL OF QUANTITIES

SECTION A - PRELIMINARY AND GENERAL						
Item No	Payment	Description	Unit	Qty	Rate	Amount
A.1	SABS 1200 A	PRELIMINARY AND GENERAL				
A.1.1	8.3	FIXED-CHARGE AND VALUE-RELATED ITEMS				
	8.3.1	Contractual requirements	Sum	1		
	8.3.2	Establishment of Facilities on the Site				
	8.3.2.1	<u>Facilities for Engineer:</u>				
A.1.2	a)	i) Offices (3x3m and 3x5m) complete with powerpoints (x3), lights (x3), aircon (x2) and blinds	m ²	48		
A.1.3	b)	ii) Furniture and Equipment: Chairs (x8), Desk complete with drawer and lock (x1), Conference table (x1), Refrigerators (x1) and Floodlights (500W x2)	Sum	1		
A.1.4	c)	iii) Carports (3x5m)	No.	2		
A.1.5	d)	Telephone	Sum	1	R10 000,00	R10 000,00
A.1.6	e)	Construction Nameboard	No.	2		
	8.3.2.2	<u>Facilities for Contractor</u>				
A.1.7	a)	Office and storage	Sum	1		
A.1.8	b)	Workshops on site and elsewhere	Sum	1		
A.1.9	c)	Laboratories	Sum	1		
A.1.10	d)	Living accommodation	Sum	1		
A.1.11	e)	Ablution and latrine facilities (Flush toilets only)	Sum	1		
A.1.12	f)	Tools and equipment	Sum	1		
A.1.13	g)	Water supplies, electric power and communications	Sum	1		
A.1.14	h)	Dealing with water	Sum	1		
A.1.15	i)	Access	Sum	1		
A.1.16	j)	Plant for road building	Sum	1		
A.1.17		Plant for transportation of plant	Sum	1		
A.1.18		Plant for excavation	Sum	1		
A.1.19	8.3.3	Other Fixed Charge Obligations	Sum	1		
A.1.20	8.3.4	Removal of Site Establishment	Sum	1		
A.2	8.4	TIME RELATED ITEMS				
A.2.1	8.4.1	Contractual requirements	Month	6		
	8.4.2	Operation and Maintenance of Facilities on Site				
	8.4.2.1	<u>Facilities for Engineer</u>				
A.2.2	a)	Furnished Offices	Month	6		
A.2.3	b)	Telephone (Cellphone)	Prov. Sum	1	R20 000,00	R20 000,00
A.2.4	c)	Construction Nameboard (x2) (2000 x 1600)	Month	6		
A.2.5	d)	Survey Assistants and materials	Month	6		
A.2.6	e)	Laptop (including Microsoft Office and 4G modem)	Prov. Sum	1	R20 000,00	R20 000,00
A.2.7		% mark-up on above items for contractors overheads, administration charge and profit		R40 000,00		
	8.4.2.2	<u>Facilities for Contractor</u>				
A.2.8	a)	Office and storage	Month	6		
A.2.9	b)	Workshops	Month	6		
A.2.10	c)	Laboratories	Month	6		
A.2.11	d)	Living accommodation	Month	6		
SECTION A CARRIED FORWARD TO NEXT PAGE						

SECTION A - PRELIMINARY AND GENERAL (Continued)						
Item No	Payment	Description	Unit	Qty	Rate	Amount
BROUGHT FORWARD FROM PREVIOUS PAGE						
A.2.12	e)	Abution and latrine facilities (Flush toilets only)	Month	6		
A.2.13	f)	Tools and equipment	Month	6		
A.2.14	g)	Water supplies, electric power and comms	Month	6		
A.2.15	h)	Dealing with water	Month	6		
A.2.16	i)	Access	Month	6		
A.2.17	j)	Plant for finishing of road reserve	Month	6		
A.2.18	k)	Plant for transportation of plant	Month	6		
A.2.19	l)	Plant for excavation	Month	6		
A.2.20	8.4.3	Supervision for the duration of Construction	Sum	1		
A.2.21	8.4.4	Company and Head Office Overhead Cost	Sum	1		
A.2.22	8.4.5	Other Time-related Obligations	Sum	1		
A.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
A.3.1	a)	Control testing by approved independent laboratory	Prov. Sum	1	R50 000,00	R50 000,00
A.3.2	b)	Sampling and testing of proposed borrowpit	Prov. Sum	1	R50 000,00	R50 000,00
A.3.3	c)	Staking and levelling by independent Surveyor	Prov. Sum	1	R20 000,00	R20 000,00
A.3.4	d)	Community Liaison Officers (CLO) Salaries	Month	6	R10 000,00	R60 000,00
A.3.5	e)	Pressure testing of existing water mains	Prov. Sum	1	R50 000,00	R50 000,00
A.3.6	f)	Engineer's accommodation	Month	6	R10 000,00	R60 000,00
A.3.7	h)	% mark-up on above items for contractors overheads, administration charge and profit	%	R290 000,00		
A.4	PART E	HEALTH AND SAFETY				
A.4.1		Health and Safety Act (Compliance) To include compilation of health & safety file	Sum	1		
A.4.2		Re-imbursement of on site Safety Officer	Month	6		
A.4.3		Prime costs for Health & Safety Act (incl. initial safety equipment/PPE for all labour) - LED Procurement locally & embroidery	Sum	1		
A.4.4		Time related obligation to items above	Month	6		
A.4.5		Monthly health and safety audits conducted by independent firm. As approved by Engineer	Prov. Sum	1	R240 000,00	R240 000,00
A.4.6		% mark-up on above items for contractors overheads, administration charge and profit	%	R240 000,00		
A.5	8.8	TEMPORARY WORKS				
A.5.1	8.8.1	Provision and maintaining of temporary by-passes (including road signs)	Sum	1		
A.6	8.8.4	EXISTING SERVICES				
A.6.1	c)	Hand excavation to expose existing services	m ³	150		
	d)	<u>Protect existing services:</u>				
A.6.2		Pipelines (up to 500mm dia.)	m	100		
A.6.3		Electrical cables & poles	No.	10		
A.6.4		Telecommunication cables & poles	No.	5		
A.6.5		Electrical cables	m	100		
A.6.6		Provide full bore access to pipeline for CCTV inspection	Prov. Sum	1	R600 000,00	R600 000,00
A.7	8.4.2.1	PROVISION OF STRUCTURED TRAINING				
A.7.1	g)	Generic skills and accredited training	Prov. Sum	1	R100 000,00	R100 000,00
A.7.2	h)	Experiential training for Civil Engineering student	Prov. Sum	1	R60 000,00	R60 000,00
SECTION A CARRIED FORWARD TO NEXT PAGE						

SECTION A - PRELIMINARY AND GENERAL (Continued)						
Item No	Payment	Description	Unit	Qty	Rate	Amount
BROUGHT FORWARD FROM PREVIOUS PAGE						
A.8		PROVISION OF OTHER ITEMS				
A.8.1		As-builts for entire works	Prov. Sum	1		
A.8.2		% mark-up on above items for contractors overheads, administration charge and profit	%	R0,00		
A.8.3		Relocation of existing services where ordered by Engineer	Prov. Sum	1	R100 000,00	R100 000,00
A.8.4		% mark-up on above items for contractors overheads, administration charge and profit	%	R100 000,00		
A.8.5		Provision for pipeline condition assessment by nominated sub-contractor	Prov. Sum	1	R500 000,00	R500 000,00
A.8.6		% mark-up on above items for contractors overheads, administration charge and profit	%	R500 000,00		
A.8.7		Provision of Social Facilitation Services by External Service Provider as approved by the Engineer	Prov. Sum	1		
A.8.8		% mark-up on above items for contractors overheads, administration charge and profit	%	R0,00		
A.9		ENVIRONMENTAL MANAGEMENT				
A.9.1		Environmental Control Officer	Prov. Sum	1		
A.9.2		Environmental Management Plan	Prov. Sum	1		
A.9.3		Closure and Rehabilitation Report	Prov. Sum	1		
A.9.4		% mark-up on above items for contractors overheads, administration charge and profit	%	R0,00		
TOTAL SECTION A TO SUMMARY						

SECTION B: PIPELINE						
Item No	Payment	Description	Unit	Qty	Rate	Amount
B.1	SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)				
	8.3.1	SITE CLEARANCE AND REMOVAL OF TOPSOIL				
B.1.1		a) Clear vegetation and trees of girth up to 1m (4m wide)	m	3 440		
B.1.2		b) Clear trees of girth over 1.0m and designated obstacles	No.	2		
B.1.3		c) Demolish and remove existing valve chambers	No.	6		
	8.3.2	EXCAVATION				
	8.3.2 (a)	<u>Excavate in all materials for trenches, backfill, compact and dispose of surplus material</u>				
		Trenches 1.1m wide for 500mm dia. watermain, depth of trench up to but not exceeding:				
B.1.4		2m	m³	5 680		
	8.3.2 (b)	<u>Extra-over excavation items for:</u>				
B.1.5	8.3.2 (b.1)	Intermediate excavation	m³	852		
B.1.6	8.3.2 (b.2)	Hard rock excavation	m³	400		
B.1.7	8.3.2 (c)	Excavate and dispose of unsuitable material from trench bottom	m³	250		
	8.3.3	EXCAVATION ANCILLARIES				
	8.3.3.1	<u>Make up deficiency in backfill material</u>				
B.1.8		a) From other necessary excavations on site	m³	400		
B.1.9		b) By importation from designated borrow pits	m³	50		
B.1.10		c) By importation from commercial or off-site sources selected by the contractor	m³	20		
B.1.11	8.3.3.2	Opening and closing down of designated borrow pit	Sum	1		
B.1.12		Compaction to 93% mod AASTHO Density in all trenches at road crossings and where directed by the Engineer. (Soilcrete with a ratio of 8% cement, entire trench)				
	8.3.3.3	<u>Overhaul</u>	m³	75		
	8.3.3.4					
B.1.13		b) Long overhaul	m³.km	700		
	8.3.5	EXISTING SERVICES THAT INTERSECT OR ADJOIN A PIPE TRENCH				
B.1.14		a) Service that intersect a trench	No.	5		
B.2	SABS 1200 LB	PROVISION OF BEDDING				
	8.2.1	<u>Provision of bedding from trench excavation</u>				
B.2.1		a) Selected granular material for bedding cradle	m³	1 000		
B.2.2		b) Selected fill blanket	m³	1 700		
	8.2.2	<u>Supply only of bedding from importation</u>				
	8.2.2.2	<u>From borrow pits</u>				
B.2.3		a) Selected granular material for bedding cradle	m³	85		
B.2.4		b) Selected fill blanket	m³	45		
	8.2.2.3	<u>From Commercial sources</u>				
B.2.5		a) Selected granular material for bedding cradle	m³	5		
B.2.6		b) Selected fill blanket	m³	5		
B.2.7	8.2.3	Concrete bedding cradle	m³	20		
TOTAL CARRIED FORWARD						

SECTION B: PIPELINE (continued)						
Item No	Payment	Description	Unit	Qty	Rate	Amount
BROUGHT FORWARD FROM PREVIOUS PAGE						
B.2.8	8.2.5	<u>Overhaul of material for bedding cradle and selected fill blanket</u> The provision for overhaul on material hauled in excess of the specified freehaul distance of 5km, only on instruction of the engineer.	m³.km	1 300		
B.3	SABS 1200 L	PIPEWORK SUPPLY, LAY AND BED PIPES COMPLETE WITH COUPLINGS				
B.3.1	8.2.1	a) 500mm Sch40 STD flanged galvanised steel pipe	m	10		
B.3.2		b) 500mm dia. HDPE PN16 pipe with stub flange connections	m	3 440		
	8.2.2	EXTRA-OVER ITEMS 8.2.1 FOR THE SUPPLYING, LAYING AND BEDDING OF SPECIALS COMPLETE WITH COUPLINGS				
B.3.3		<u>Bends</u> a) 500mm dia. 90° HDPE PN16	No.	4		
B.3.4		b) 500mm dia. 45° HDPE PN16	No.	8		
B.3.5		c) 500mm dia. 22.5° HDPE PN16	No.	6		
B.3.6		d) 500mm dia. 11.25° HDPE PN16	No.	5		
B.3.7		e) Welding of 500mm stub flange (SABS 1123-1600/3) to existing steel pipe and connecting with HDPE stub flange connection	No.	6		
B.3.8	PSL 8.2.8	<u>Recover old pipeline</u> Recover existing 500mm steel pipeline to depth of 2m (NB: Rate does not include excavation or backfilling. Excavation included in item E.1.4)	m	200		
VALVE CHAMBERS						
B.4	8.2.13 SABS 1200 D	VALVE CHAMBERS CIVIL WORKS EARTHWORKS				
B.4.1	8.3.2 a)	<u>a) Excavate in all materials and use for embankment or backfill or dispose, as ordered</u> i) 0 - 2m depth	m³	285		
B.5	SABS 1200 G	CONCRETE (STRUCTURAL) FORMWORK				
B.5.1	8.2	<u>Smooth</u> Horizontal plane	m²	60		
B.5.2	8.2.2	Vertical plane	m²	300		
	8.3	REINFORCEMENT <u>Steel reinforcement, including all cutting, binding-wire, spaceblocks, etc</u>				
B.5.3	8.3.1	Mild steel bars	t	3		
B.5.4	8.3.2	High tensile steel bars	t	6		
B.5.5	8.3.3	High tensile stell mesh ref 311	m²	24		
B.5.6	8.4	CONCRETE Blinding layer, class 15 MPa/14mm concrete, 50mm thick for all levels where reinforced concrete will be placed, including the necessary shuttering and finishing				
	8.4.2		m²	10		
B.5.7	8.4.3	<u>Strength concrete, class 30 MPa/19mm for the following:</u> Foundations and roof slabs	m³	40		
TOTAL CARRIED FORWARD						

SECTION B: PIPELINE (continued)						
Item No	Payment	Description	Unit	Qty	Rate	Amount
BROUGHT FORWARD FROM PREVIOUS PAGE						
B.5.8		MISCELLANEOUS 1500mm Concrete monhole rings (Salberg or similar approved)	No.	18		
B.5.9		600mm concrete manhole cover (Salberg or similar approved)	No.	2		
B.5.10		600mm Interlock UMHC High security manhole cover (or similar approved) casted in with 10mm stainless steel top plate, 3CR12 painted.	No.	11		
B.5.11		Supply delivery and installation of calcamite step irons	No.	40		
B.5.12		Vermin proof air vent as per drawing	No.	11		
B.5.13		150x110mm PVC-U sewer gulley with CI grate	No.	8		
B.5.14		110mm PVC-U drain pipe	m	200		
B.6	8.2.13	VALVE CHAMBERS MECHANICAL WORKS				
B.6.1	8.2.3 & 8.2.13	SCOUR VALVE CHAMBER All valves, pipework and fittings as detailed in drawing pipe fittings and item list. Includes all jointing, cutting, supply, dismantling joints, delivery & installation. All items to comply with SABS 664 & fitted with resilient seal seats.	No.	1		
B.6.2	8.2.3 & 8.2.13	ISOLATION VALVE CHAMBER All valves, pipework and fittings as detailed in drawing pipe fittings and item list. Includes all jointing, cutting, supply, dismantling joints, delivery & installation. All items to comply with SABS 664 & fitted with resilient seal seats.	No.	3		
B.6.3	8.2.3 & 8.2.13	AIR VALVE CHAMBER All pipework applicable to air valve chamber as per item list below:				
B.6.4		a) 500 x 250mm T-piece	No.	8		
B.6.5		b) 100mm diameter spigot, one end 250mm, other end 100mm flange, 250mm long	No.	8		
B.6.6		c) 100mm isolation ball valve	No.	8		
B.6.7	PS 3	d) 100mm air release valve (Tripple acting - Variant Model LX or similar approved)	No.	8		
B.6.8	8.2.11	ANCHOR/THRUST BLOCKS AND PEDESTALS	m³	80		
B.6.9		Concrete pipe markers (As per drawing NKP400_B2.5)	No.	10		
B.6.10	b)	<u>Anchor blocks</u> Concrete (25/19)	m³	30		
B.6.11		Formwork	m²	50		
TOTAL SECTION B TO SUMMARY						

SECTION	DESCRIPTION	AMOUNT
A	PRELIMINARY AND GENERAL	
B	PIPELINE	
SUB-TOTAL FOR CONSTRUCTION		
ADD 10% CONTINGENCIES (This amount is under the sole control of the Engineer and may be omitted partially or as a whole)		
SUB-TOTAL		
ADD 15% VAT		
TOTAL TO FORM OF OFFER		
TIME FOR COMPLETION (WEEKS)		
SIGNED ON BEHALF OF TENDER		